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TRANSMISSION AND BEHAVIOR OF TYPHOID POISON AS OBSERVED IN COUNTRY PRACTICE.

BY LEWIS N. DAVIS, M.D.,
OF FARMLAND, INDIANA.

By a vast majority of the observers who would seem best calculated to know the facts, typhoid fever is now thought to be due to the invasion of the blood by a specific microörganism, known as the germ of Eberth, or the bacillus typhosus. The same observers believe that water is the principal, in fact, almost the only, medium that operates in the transmission of this infectious germ from its focus development, outside of the human body, to the subject of enteric fever. The germs or their spores are said to be eliminated from the typhoid patient, with the alvine discharges in a totally passive state. They increase rapidly in number and soon develop virulence and activity, under the favorable conditions afforded by filth, heat and moisture.

Water is supposed to be a favorable habitat for typhoid germs[1]. These microbes may find ready access to the surface water by a careless disposition of the stools of typhoid patients; thence they reach the wells and other sources of water supply by surface drainage, by active filtration through porous soils and leaks in water mains. Typhoid germs are transferred to the human system by persons drinking the water thus contaminated. If sufficiently susceptible the system will yield to the infectious material and typhoid fever will follow.

Medical history is replete with apparently undeniable proofs of this theory of transmission and behavior of typhoid poison. Such notable instances as the epidemics of Caterham[2] and Redhill, Eng.; Bordeaux[3], France, Wilkesbarre[4] and Plymouth[5], Pa., and that of Cincinnati, Ohio, seem indeed to offer unanswerable evidence in favor of the possibility of water transmission of typhoid poison. Therefore, the theory of water contamination as a cause of typhoid fever has rapidly grown in the favor of the physicians in the last few years.

Today the unanimity of medical thought on this subject may be conveyed by such declarations as that of Prof. Vaughan who says[6], "There are 350,000 to 400,000 cases of typhoid fever in the United States yearly. Medical men believe these are almost wholly due to impure drinking water." Some observers place the number of infections from impure drinking water as high as 98 per cent[7]. Upon this subject I believe the medical profession occupies an extreme, if not an unwarrantable position. The pythogenic theory of Murchison and the contagious theory of Budd are alike rejected.

Clinical observations in the country do not seem to corroborate these widely prevalent views, relative to water transmission of typhoid infection.

If anything can be determined by the behavior of typhoid poison—whatever that may be—as manifested by its influence on members of isolated families, it is: 1. That water is not commonly the medium which conveys the infection to the human system. 2. That the poison is ordinarily conveyed to the system that becomes infected by the atmosphere in the immediate neighborhood of the typhoid patient, or by the atmosphere immediately surrounding the focus of infection, if the focus of infection be outside of the human body. 3. That typhoid fever is practically contagious. 4. That the poison is probably infectious from the time it escapes from the body of the typhoid patient.

The rural section to which my practice has been confined for a period of twenty years is the most elevated portion of the State of Indiana, being about 1,285 feet above sea-level. It comprises an area eight or ten miles square, which consists of a narrow tableland and flat water sheds, lying between the Mississinewa and White rivers. These rivers afford running water the year round, and are only about eight or ten miles from each other at the point in question. The gentle hills and sloping valleys, together with the streams named, provide ample drainage for every district of the country. The soil consists of glacial deposit, and is, as a rule, of a very heavy, non-porous, compact character. It is composed largely of yellow clay, mixed with a liberal supply of humus, and along the streams with sand. Beneath this drift, at a depth of forty to sixty feet is everywhere found a solid bed of lime-stone.

The drinking water is obtained from wells which are usually about twenty feet in depth. The first ten feet traversed in sinking a well are through the heavy yellow clay just spoken of; thence to a strata of sand where an abundance of water is obtained, is through a very dense, sticky blue clay. Both kinds of these clays are almost impervious to water, so that percolation of surface water into the wells might be regarded as practically *nil*. It can only be in the fewest possible instances, from wanton carelessness, that surface water finds entrance directly into a well through slight depressions or furrows in the ground. The wells are usually thoroughly protected against

1 Gaffky, Jour. Am. Med. Ass'n, p. 275, Vol. xviii.
2 Wood's Handbook of Practice.
3 Picket—Gazette Hebdomadaire des Sciences Medicales, De. Bordeaux.
4 Dr. Taylor—Lehigh Valley Medical Magazine, May, 1890.
5 Drs. Rushford and Cameron—Medical News, Nov., 1887.
6 The examination of drinking water with special reference to its relation to typhoid fever. Jan. 14, 1890.
7 Dr. Thad. A. Reamy. Lecture before the Teachers' Association. Cin'ti. March 13, 1872.

surface water by embankments, and the whole arable country is well drained with a perfect system of tiling.

The farmers are well-to-do, and are usually tidy about their premises. As respects their sanitary surroundings, they are quite abreast with the average of their class, in the best agricultural sections of any country.

But a little more than two generations have passed since the white man first broke the soil. The history of early settlers affords but very few well authenticated cases of typhoid fever. The great scourge of the Hoosier, from the time the first forest trees were felled until the year 1879, was malarial poison. Malaria in its multiferous forms, prevailed from August till December. For the past twelve years, from some unknown cause, malarial fevers have been superseded by typhoid. Typhoid fever now constitutes the prevalent autumnal disease; it prevails in the form of family and neighborhood epidemics and not infrequently extends through the entire winter.

On the 12th day of December, 1886, I was called to see Mrs. B.,[8] aged 46 years.

About a month before this time Mrs. B. had assisted in nursing a neighbor woman who died with typhoid fever. The sick neighbor was situated one mile distant from where Mrs. B. lived. Mrs. B.'s case also proved to be one of typhoid fever. She had two profuse hæmorrhages from the bowels during the continuance of her sickness, and passed many weeks in a very critical condition, but finally recovered.

The Bales family, to which Mrs. B. belongs, consists of the parents and six children. Their residence is a commodious two-story frame building, which has been built three years. The well was dug and the out-buildings constructed at the same time the house was built.

Prior to the attack of Mrs. B., there had been no sickness in the family, save a case of "summer complaint," since the house had been occupied. The fecal discharges of the patient were disinfected with nitric acid or boiling water, carried a distance from the house and buried in the earth. The body and bed linen were changed every alternate day, and strict attention was paid to the cleanliness of the patient, as well as the general surroundings of the sick chamber. However, during the course of Mrs. B.'s case the weather was quite cold, and in order to meet the somewhat fanciful desires of the patient, the house, at times, was kept extremely close and warm. The children occupied an adjoining room to that of their mother during the sickness of the latter. With all the precautionary means, precisely twenty-four days after their mother took sick, five of the children aged from 8 to 18 years began to manifest symptoms of the disease.

The subsequent three weeks gave full development to all the phases of the typical and grave typhoid fever in each of the five children. All recovered.

Thus the epidemic which had been produced by the imported poison, ended with the infection of the five children.

There were but very few, and only transient visitors in the Bales house during the prevalence of their family epidemic.

The nursing was in charge of Mr. Bales and his eldest daughter—two of the most rugged members of the family—both of whom escaped the disease entirely.

The following is a brief history of an interesting neighborhood epidemic in which the first case made its appearance in a family by the name of Adams:

The Adams family consists of six persons: Mrs. Adams, aged 73 years, her son and his wife, and three small grandchildren.

The family has lived on the place now occupied a part of three generations, covering a period of fifty-two years.

The water is supplied by a well which has been in constant use by the family for forty years.

One case of typhoid fever is said to have occurred on the Adams farm within the fifty-two years of the family occupancy, the date of this case being in September, 1847—almost forty-five years ago.

[8] See Jour. Am. Med. Ass'n, vol. x, p. 483.

On the 14th day of October, 1891, the senior Mrs. Adams visited a married daughter, seven miles distant. There were five cases of typhoid fever, in various stages of progress, in the family visited.

Mrs. Adams returned to her home in a short time, and after several days of complaining, she took her bed on the 6th of the following November. She soon became stupid, semi-conscious and comparatively helpless.

As she was visited only a few times by a physician, in the early part of her sickness, before the development of the more characteristic symptoms, the diagnosis of the case was left in some doubt. Suffice it to say, that Mrs. A.'s case was attended by many symptoms of typhoid fever, including a very profuse and troublesome diarrhœa. Owing to her helpless condition, the nurses placed pads under the hips of the patient, and the bowels were evacuated *in situ*.

As the old lady was quite a care in her last sickness, a goodly number of neighbors and relatives lent a helping hand in nursing her.

Among those actively engaged in attending the sick woman were five couples—men and women—belonging to as many distinct families, but including Mr. J. A. and wife of the Adams family. The remaining four couples, or families, live respectively one-quarter, one-half, three-quarters and four miles distant from the Adams house.

All of these ten persons[9] who participated in nursing Mrs. A. were of about middle age, and enjoyed an average degree of health.

The interior of the Adams residence is very uninviting. It consists of one large, and two or three smaller rooms, all of which are dark and poorly ventilated. The sides of the rooms are covered with old wall-paper, which is hanging loose in many places.

The nurses, callers and the sick, promiscuously occupy the larger room together much of the time, heat being generated by a huge wood-stove, which is in close proximity to the sick-bed.

Mrs. Adams was buried on the twenty-third day after taking her bed, at which time there were but half of the nurses able to attend the funeral; and within thirty-three days after Mrs. A. senior took sick, all of the ten nurses had typhoid fever.

With but two or three exceptions, the cases presented the roseolous rash, had epistaxis, and all of the leading features of grave typhoid. They all recovered but Mr J. A. of the Adams family, who died on the thirty-fifth day of his illness, with hæmorrhage from the bowels.

It is supposed that each of the three grandchildren in the Adams family had a slight attack of typhoid fever, as they were very much indisposed during the sickness of their parents.

In addition to the nurses already mentioned, there were a few transient callers at the Adams house during the course of the first case. Among the number was Miss M., aged 18 years, who was induced to remain at Mrs. A.'s wake on the night of November 28.

Twenty days later Miss M. took typhoid fever.[10] She had the roseolous rash, and in all respects a typical attack of typhoid, from which she recovered in about thirty days.

She ate nothing during the night when at the wake, and partook of no liquids save a few swallows of water just before her departure in the morning.

This, the fourteenth case, concludes the number of infections that occurred at the Adams house during the sickness and before the burial of Mrs. Adams, by whom the poison was undoubtedly transported thither from a distance of seven miles.

There were three other infections in the Adams house after the death of the first case, as follows: Mr. and Mrs. Mills went to nurse J. A. and wife, on the Adams farm, in the early part of December. Both took typhoid fever twenty-one days thereafter; both recovered.

Mr. W. R., aged 24 years, was then hired to go to the Adams house and wait upon J. A. and family. He began duty on the 28th of December, 1891. Twenty-one days after he entered the infected locality the first symptoms made their appearance, and soon he was confined to his bed with a very severe case of enteric fever. He recovered in about six weeks.

When taken sick, Mr. R. was lodged in the farm residence of Mr. Hammers, about one mile distant from the Adams place. Good nursing was secured throughout the course of the case.

[9] They occasionally took meals and drank water at the Adams house.
[10] Miss M. lives one mile from the Adams house.

The patient's stools, which were very frequent, were carefully disinfected with three or four times their bulk of boiling water, carried 200 yards from the house and buried in the ground.[11]

The body of the patient was thoroughly sponged with dilute alcohol two or three times daily, and the body and bed-linen kept scrupulously clean. The desired ventilation could not be always attained in the sick-chamber, however, on account of the prevailing cold weather, which frequently necessitated closing both doors and windows.

The Hammers family consists of Mr. H. and wife, aged 75 and 72 years respectively, their daughter and three grandchildren.

Mr. H. was the first settler on his place, and has occupied it since 1837. In all respects the home is a model one for taste and cleanliness, from the interior of the residence to the farthest limits of the farm. Prior to the present outbreak, there has never been a death or any bad sickness on the Hammers farm.

The well is situated on high open ground, several feet from any building, is 20 feet deep, and has supplied the family with water for twenty-two years.

In from twenty to thirty days after the reception of Mr. R. into the Hammers residence, the three grandchildren were attacked with typhoid fever, and on the 28th day of March, or two months after the entrance of the first case into the family, Mrs. H. took the fever, and died twenty-one days later.

The origin, course and decline of many similar limited country epidemics might be detailed, but without presenting any especial features not contained in those already given. I have intentionally refrained from reporting any local outbreak of typhoid fever in which it was not possible to trace the origin of the first case to some distinctly infected source—my purpose being to assist with this means, in making it clear that the infection did not exist on the premises where the epidemic occurred, prior to the development of the case, which is here regarded as initiating and spreading the epidemic.

It is beyond the limits of the subject to combat the theory of water transmission of typhoid fever, and far beyond the limits of my ability to do so with much hope of success.

But if able to exhibit any inconsistencies in the theory of water contamination as the *chief* cause operating in the spread of typhoid fever, even in a single locality, much will have been accomplished in favor of the theory of atmospheric transmission of the poison.

The inconsistency of the view which holds that water is the chief carrier of the *materies morbi* of typhoid fever becomes apparent when applied to the behavior of the poison, after it has been transported from an infected to a previously healthy locality, as in the case of Mrs. B., who became infected on her neighbor's premises. She carried the infecting principle a distance of one mile, into her own home, where there was not the slightest reason to believe that it had ever existed before. Twenty-four days after the poison had gained a foothold in this virgin soil at the Bales home, it was capable of striking down the five children.

Could it be possible that the infectious material that might have been contained in the discharges from Mrs. B.'s bowels, had found its way into the water of the recently dug well, thence into the system of the five children, within the lapse of twenty-four days?

Such a view certainly cannot be made to appear tenable, when it is remembered that the discharges in Mrs. B.'s case were very carefully dealt with.

[11] The stools of the patients on the Adams place were neither disinfected nor buried, but carried quite a distance, down a slope, from the well and house.

The same incongruity of thought will occur, if the theory of water pollution be offered as an explanation of the spread of typhoid fever in the Adams epidemic.

Here the typhoid material was undoubtedly conveyed by the first subject from a notoriously affected locality, a distance of seven miles, to a farm that had not known a case of typhoid fever for forty-five years. Yet, within twenty-two days after the transported poison began to manifest itself in this newly infected locality, it had five more victims, a little later ten, fourteen, then seventeen.

Can it be said that this well from which the family had been supplied with water for forty years without any untoward developments, had become charged with typhoid poison in the space of twenty-two days? Impossible! Did Miss M., who staid at the Adams wake on the night of November 28, swallow the typhoid material in a few sips of water? I do not believe so.

Again, in the Hammers family, where the poison was transported by Mr. R. from the Adams focus of infection, one mile distant, to a farm that had been noted for the health of its inhabitants for fifty-five years, the premises suddenly becomes a hot-bed for typhoid fever. Could the water supply from which the family had been furnished for twenty-two years be responsible? Was the water answerable for the four cases of typhoid fever that followed in from one to two months?

It is not alone the short time required for the transported poison to assume activity, in a previously healthy locality, that renders the theory of water contamination an improbable cause in the spread of typhoid fever. It is also improbable in the epidemics here cited, as well as all other epidemics of typhoid in this locality, owing to the character of the soil, as previously set forth.

Our wells certainly contain little else than unmixed "ground water," therefore the water must have been subjected to prolonged filtration through stratas of sand and gravel before reaching the wells, by which process, according to high authorities,[12] it is freed from any pathogenic microbes it might have contained.

Is it not possible that a relationship between malarial and typhoid fevers may yet be found in the fact that the latter now prevails in many localities at the expense of the former?

Typhoid fever is undoubtedly contagious by mediate contact; and atmospheric contamination offers the only plausible explanation of the spread of the disease in each of the epidemics just given.

The contagium, which certainly escapes with the exhalations from the body of the patient, as well as with the dejections from the bowels, must be active at the moment it is liberated from the typhoid subject, because there is no difference in the length of the stage of incubation in the first and second set of cases infected by a transported poison.

The infected atmosphere may reach every apartment in an ordinary farm dwelling which contains a typhoid patient, when the conditions are favorable

The conditions are favorable in the winter time, when it is impossible to secure perfect ventilation in country houses, on account of cold weather. The conditions are still more favorable when, conjoined with improper ventilation, there is little attention

[12] Bertschringer, Gazette Médicale de Nantes, July, 1890.

paid to the cleanliness of the patient and his surroundings.

The country population experiences but few epidemics of typhoid fever in the early autumn, when the doors and windows can be thrown open, and when the application of water can be advocated with the perfect approval of both the patient and the nurse. Like the most of contagious diseases, the infecting material of typhoid may unquestionably be inhaled with the atmosphere which disseminates it.[13] Such accords with our experience in country practice; such are the views of our patrons, and with each passing year we find it more difficult to secure nurses who are willing to engage in the care of typhoid patients.

Discussion.

Dr. Chapin reported that in 1864 he had seen several cases similar to those reported in the paper.

Dr. J. H. Musser, of Philadelphia, thought that before any conclusion can be drawn, the relations of the first case, so far as the infection of drinking-water is concerned, should be worked out. He regretted that, in connection with the report of the Adams family, no record had been given of the disposition of the stools. In this connection, he said, the epidemic of Plymouth, Pa., well known to all, was of interest. It was there shown that the cases arose from one case of typhoid living at the head of the stream which supplied drinking-water to the communities afterward afflicted.

Dr. Davis, in reply, stated that the stools of the Adams family were not disinfected, but were thrown out upon the ground at a distance. He had failed to mention this fact because he did not think that the poison could reach the well in the twenty-four days which preceded the outbreak of the second case.

A paper was then read entitled

NON-VALVULAR HEART MURMURS.

BY N. S. DAVIS, Jr., A.M., M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, CHICAGO MEDICAL COLLEGE.

By non-valvular heart murmurs I mean heart murmurs that are produced without structural change in valves. Such murmurs are common. They often cannot be distinguished from those that are produced by valvular deformities. The physical signs which accompany valvular lesions enable the diagnostician to locate the morbid process and to determine the character of interference with the circulation which it produces, but does not make it possible to decide on the pathological character of the lesion.

I call attention to the following cases to emphasize the fact that not unfrequently the murmur of a non-valvular lesion is the same in character and location as a valvular one, and that it may be accompanied by the same changes in the size and shape of the heart and other organs.

A man about 45 years old, entered Mercy Hospital suffering with distressing dyspnœa. He coughed little. He was moderately œdematous about his feet. He complained of no pain. His heart was enlarged to the left moderately. Its area of dulness extended about two-thirds of an inch to the left of the nipple line and to the centre of the sternum. The apex beat was strong and easily discernible, though the chest wall was thick. It was moderately diffused and not quite regular. There was throbbing just beneath the sternum of moderate force. No thrills could be felt over the heart. The precordia was not prominent. A systolic murmur was audible all over the heart, but was loudest and clearest at the apex and lowest and most obscure over the aorta. The patient's liver was about one inch broader than was normal. He had no abnormal temperature while he was at the hospital. His urine was normal in amount, slightly cloudy, of a dull straw color and a specific gravity of 1028. It contained considerable albumen. When the latter was coagulated by heat and permitted to settle thoroughly it constituted about one-sixth of the bulk of the urine tested. Granular casts, a few granular epithelial cells and some amorphous granular matter was found in the urine's sediment.

The patient began to be dyspnœic about a week before he entered the hospital. His feet became œdematous at the same time. He had been slightly short-breathed for months. A year prior to this last illness he suffered with acute articular rheumatism. He had been a laborer and was accustomed to use alcoholics freely.

The urine indicated a chronic nephritis. The enlargement of the liver, evident engorgement of the lungs, and dilatation of both ventricles with probably (as the force of the apex beat indicated) some hypertrophy, and a cardiac murmur most intense at the apex, pointed to a mitral valve lesion. The former rheumatism afforded a cause for endocarditis. The shortness of breath which the patient experienced during the year prior to his last illness was supposed to be of cardiac origin. It was thought that the nephritis might have grown out of a passive hyperæmia of the kidneys.

A few days after he entered the hospital a pain of considerable intensity and persistence suddenly developed in his right forearm. The arm also rapidly became œdematous. There was tenderness about the painful point. This new lesion was evidently due to an embolus. In a week the arm was normal in size and all pain had disappeared. He gradually improved so that he could lie down to sleep. The œdema of his feet lessened. Again he was taken worse and became rapidly very dyspnœic. His breathing grew shorter and more labored as his lungs filled with an œdematous exudate until it ceased.

On post-morten examination his kidneys were found enlarged and presenting the usual aspect of parenchymatous nephritis; the liver was slightly enlarged from congestion. His lungs were œdematous and a small amount of serum was found in the left pleural cavity; the heart was enlarged and soft. The walls of the ventricles were normal in thickness. No lesion or deformity of the valves was discoverable, but a fibrinous clot whose largest mass was a half inch in thickness, was intimately intertwined amongst the chordæ tendinæ of the mitral valve. This was evidently not a new clot for it was firmly adherent to the heart's wall at several points. It was tough and firm. The mitral orifice was not abnormally large. The murmur must have been due to the interference which this clot presented to the closing of the valves and a bit of it formed the embolus which caused his arm to swell. The renal disease was plainly the primary one. The blood-state which nephritis produced predisposed to the clotting of the blood in the dilated heart. The interference with the circulation which the clot caused was precisely that which a contraction of the mitral valves by scar-tissue or other inflammatory change might produce, therefore the physical signs which resulted were the same.

Another case of cardiac murmur due to a heart thrombus, I observed develop in a similar case of nephritis. A young man of thirty-five had nephritis for at least two months before a physician was consulted. When seen by me he was quite œdematous, suffered much from nausea and occasionally from dyspnœa. A severe headache tormented him at night. He had supposed the œdema of his feet was a rheumatic swelling of them. He made only about one half the normal quantity of urine. It was turbid and contained an abundant sediment. In the latter granular and epithelial casts were numerous. There was much amorphous granular matter, a few granular epithelial cells and oil droplets. The urine was strongly albuminous. During the two weeks that followed, the patient grew gradually weaker with, from day to day, varying degrees of comfort and discomfort. He then kept his bed continuously although the œdema had nearly disappeared and the nausea and vomiting had wholly. His urine had increased so that it was little less than normal. While for the most part free from pain or suffering, he felt his weakness greatly. Often at night he felt anxious for air and demanded that the windows be opened, though his breathing was not increased in frequency and there was no evidence of obstruction to the bronchial tubes. His heart was easily excited from the beginning of his illness. Usually his pulse varied from 80 to 90 beats per minute, but slight exertion made it quicker. It was rather small and soft. His skin had the sallow anæmic hue which characterizes chronic parenchymatous nephritis.

About two weeks before his death I found at my morning visit that there was audible over the heart a double systolic beat. The two systolic sounds were perfectly distinct and exactly alike in character. His pulse was then 130 per min-

[13] Experiments of Sicard. See Jour. Am. Med. Association, Editorial, Vol. xviii, p. 467.

ute. He felt extremely weak and momentarily faint. The systolic reduplication persisted during the half hour that I sat by him. I returned to him about three hours later and then found the double systole gone but a plain murmur audible along the lower right border of the sternum and over the lower end of the bone. It was loudest and clearest in the second intercostal space just to the left of the sternum. It was less plainly audible over the aorta than at the lower end of the sternum and was inaudible at the apex. The murmur was soft, low and systolic in time. Over the pulmonary artery the second sound was wanting. The heart had not changed in size or shape. For a week its area of dulness had extended from the left nipple a trifle to the right of the sternum. The apex beat was scarcely discernible and could not be plainly felt. There was no substernal throbbing. The cardiac murmur which had thus developed persisted to the patient's death. It seemed to me plainly a case of cardiac thrombosis in the right ventricle and interference with the action of the tricuspid valves upon that side.

The patient died 16 days after the cardiac murmur developed. An autopsy displayed kidneys with the characteristic appearances of the patient's disease. The heart was moderately enlarged, a little soft and of normal color. The interior of the left ventricle and auricle was normal. In the right ventricle, adherent to its walls, intertwined with the chordæ tendinæ and muscular papillæ was a large clot of a dull white color and very firm consistence. In the ventricle it was spread out and much divided, but was concentrated into a large, ropy mass a third of an inch in diameter and three inches long, which extended into the pulmonary artery.

These cases are especially interesting as illustrations of the length of time clots may exist in the heart, though not perfectly organized, and the possibility of cardiac murmurs being produced by them. The thrombi formed in these two cases resembled those that are commonly produced just before death when, as often happens, the heart beats with rapidity and, feebleness but they were firmer and their interiors were dryer. When they were removed from the heart the endothelium was torn off in small spots where the fibrin had become attached.

It would be difficult to explain the development of a heart murmur in the second case except by supposing a cardiac thrombus existed such as was found after death. There also existed a blood state which disposes to thrombosis and when the murmur developed the heart was beating with great rapidity and feebleness. In a word the most favorable conditions existed for the formation of a thrombus.

A third case of cardiac murmur with associated physical signs which simulated mitral insufficiency, was first seen at my office:

A woman about 35, with a small family, came to me with feet much swollen, considerable shortness of breath on exertion, frequent coughing, irregular and rapid beating of the heart. Her face and chest were rather thin. She was sallow. I found her pulse medium in size, soft, quick and irregular. She had little appetite. She did not complain of indigestion. Her bowels were constipated. She thought her urine was a little less than normal in amount. A sample brought some days later contained no albumen and appeared normal. She menstruated regularly. Her cough was bothersome because of its frequency. She expectorated, not copiously, a frothy sputa. A physical examination of the chest exhibited the usual evidences of a diffuse bronchitis of moderate severity. The precordia was a little more prominent than natural. The heart's apex beat could be faintly felt and scarcely seen. No substernal throbbing could be felt except upon deep pressure in the epigastric region where there was considerable tenderness. The area of cardiac dulness extended to the left nipple and for two inches directly below it; and to the right border of the sternum. No abnormal fremitus could be felt over the heart. A soft systolic murmur was plainly audible at the apex and to the left of it, and less plainly near the lower end of the sternum. At the base the first sound was normal but over the pulmonary artery the second was accentuated. The liver was a little depressed and slightly broader than natural. The case seemed plainly one of mitral insufficiency with slight dilatation of both ventricles, considerable cardiac weakness; bronchitis and moderate emphysema; moderate engorgement of the liver and general œdema. Relief was readily obtained by cardiac tonics. In two weeks the œdema was altogether gone; her cough almost gone; her breathing was easy except when quite rapid movements were made. Her appetite returned. In every way she felt greatly improved. A physical examination revealed very little change in the signs of cardiac disease except that the heart beat with regularity and greater force, the apex was more plainly visible though its impulse was feeble. I lost sight of the patient after this for 4 months. I was then asked to visit her. She had been in the country and for the first 3 months did well. During the last month her old troubles—cough, dyspnœa, œdema, inability to eat and great debility returned. She was confined to her bed and compelled to maintain a semi-recumbent position. She was able to sleep very little because of her cough and dyspnœa. Her abdomen was distended with ascites. Her urine was scant and contained a small amount of albumen but no sediment. Her heart was very rapid and irregular. Otherwise the physical signs of cardiac disease were the same as when I saw her first. The pulse was small and soft. She was so imperfectly cared for at home that I urged her to enter Mercy Hospital. She lived only four days longer. An autopsy demonstrated firm adhesions between the pericardial surfaces except posteriorly. In front, underlying the lower part of the sternum and extending to the left of it to the apex, was a hard, immobile plaque of partly calcified fibrous tissue, about 2 inches broad and 4 inches long. It covered most of the anterior surface of the heart. It was cut with difficulty and at points was completely calcified. The ventricular walls were moderately hypertrophied. The valves were quite normal and the valvular orifices were not distended.

She never recalled any attacks of pericardial pain or tenderness, but had acute articular rheumatism two years before she was first seen by me. After that she suffered from bronchitis frequently and was constantly dyspnœic when she exerted herself much.

This case again illustrates the fact that the usual combination of signs of a valvular lesion may coexist though the cardiac valves are without flaw.

Pericardial adhesions can rarely be diagnosed and certainly not when a fibrous or calcified pericardium makes systolic retraction of the sternum and intercostal spaces impossible. Such adhesions are occasional causes of systolic murmurs. The mechanism of these murmurs cannot be certainly explained. They are, however, probably due to irregular contractions of the muscle fibres composing the heart's wall, so that unusual currents or eddies are produced in the blood within the heart.

Anæmic murmurs are so common and usually so easily recognizable, that they scarcely need comment. The signs to be relied upon for their diagnosis as stated by the best authorities are the following: Anæmic and functional murmurs are usually soft, blowing and systolic. When most characteristic they are clearest and loudest about one or one and a half inches to the left of the sternum in the second interspace. Sometimes they are most audible a little lower or even at the apex. When at the apex they are usually heard in a very circumscribed space. They are never loudest over the aorta. Hypertrophy of the heart is not associated with anæmic murmurs though dilatation often is. Murmurs in the veins of the neck are frequently present in anæmic states.

Murmurs due to valvular disease may also be soft and blowing. Though functional murmurs are almost uniformly systolic, they may rarely be diastolic. Murmurs heard at the base of the heart and well to the left of the sternum are uniformly anæmic, but occasionally may be confounded with pulmonary murmurs and the rare mitral murmurs which are heard plainest over the auricle. These latter when charac-

teristically located are close to the sternum. Functional murmurs, I believe, are often loudest at the apex. They are, however, rarely much diffused or propagated to the left into the axillary space, but as in the case of fibroid pericarditis, which I have just described, they may be diffused and transmitted as valvular ones commonly are. An intense anæmia is not much more liable to be accompanied by a cardiac murmur than one of moderate severity.

Soft systolic murmurs occasionally develop as convalescence is being established in rheumatism when the blood has become moderately thin. In two such cases I have heard the murmur only in a small space at the apex. The heart in each instance was slightly dilated, beating rapidly and with feeble force. Under tonic treatment in the course of two or three weeks, the hearts regained their vigor and the murmurs disappeared. Such murmurs are undoubtedly functional and do not signify endocarditis. An endocarditis which can produce a murmur usually develops before convalescence begins and very rarely disappears entirely. Accidental or functional murmurs are quite as likely to develop after rheumatism as after other fevers and prostrating diseases.

It is true that for the diagnosis of a heart disease the *tout ensemble* of cardiac physical signs is of the greatest importance, the mode of their development, the condition of the patient before and at the time of examination, the existence of a former illness such as rheumatism or chorea, the progress and complication of the affection, in a word the medical history of a case is of equal importance. A diagnosis often cannot with safety be based upon physical signs only.

65 Randolph Street, Chicago.

Discussion.

Dr. Newcomb, of New York, referring to his own experience as examiner for an industrial branch of one of our large insurance companies, stated that he frequently made examinations of individuals who had just come in from work, frequently too after a long walk, and that he had found that murmurs are sometimes distinguishable under such circumstances which are not at all audible in repose. In certain cases of long-standing debility there is a regurgitation through a valve which is not due to disease, but due simply to the relaxation of the orifice. Murmurs of overaction are explained as due to the fact that the action of the ventricle becomes so powerful that the mitral valve is not able to close the orifice completely, and blood is forced back into the auricle.

Dr. Kennedy, of Michigan, remarked that in examinations of boys for the Navy, murmurs have been found which could not be accounted for except as a result of cigarette smoking. Murmurs were also found in the recumbent posture which could not be found in the erect posture.

Dr. Davis explained that the time at his command had not been sufficient to go into the consideration of the cause of this condition. All the explanations that have been given are purely theoretical. We have no experimental proofs as to the causation of these murmurs. The formation of a fibrinous clot as a cause of the murmur is not essential, but probably does occur frequently. He felt confident that this was the cause of the murmur in his second case, from the character of the murmur and from the character of the clot.

The title of the next paper was:

THE IMPORTANCE OF POSITION IN EXAMINATION OF DISEASES OF THE HEART.

BY O. B. CAMPBELL, M.D.,
OF OVID, MICH.

The heart (the only organ in the body which is never at rest) with its investing membranes, the serous and fibrous pericardium, is situated in the median line of the thorax, and occupies the entire space between the two lungs and pleuræ. This pericardial sac includes the heart, the origin of the large blood vessels, and possesses very complete fixation. Next to the pelvis Paul claims the pericardial sac to be the least movable region in the human body. Its apex is fixed to the skeleton by three ligaments, one coalescing with the inter vertebral ligament of the third cervical vertebra; another uniting with the middle aponeurosis of the neck is inserted into the hyoid bone, the other passes anteriorly to the sternum.

The base of the pericardium is fixed to the centre of the diaphragm and through the medium of this muscle is united posteriorly to the spinal column, and anteriorly to the ensiform appendix.

Now, the heart, which may be compared to a hollow muscle acting like a great force pump to propel the blood through all parts of the body, is kept in place by the great vessels which spring from its base, and by the attachments of its investing sac, the pericardium, which has been shown by before stated anatomical facts to be fixed solidly to the skeleton, and therefore changes its position but little, during the respiratory movements of the diaphragm, hence the apex beat in a normal heart is but slightly raised or lowered during inspiration or expiration, and whether the patient is examined either lying down or standing; but on the other hand quite marked displacements may be observed in abnormal cases where hypertrophy has increased the weight of the organ, and the resistance of the ligaments has been gradually overcome.

Altered posture of the body always displaces the normal heart transversely which sinks from three to six centimeters when lying on the left side, and from one to three centimeters during right decubicus. Position also illustrates the effects of gravity on the heart in the greater force and more extended apex beat, when the chest is bent forward, a procedure that should always be practiced when this beat is obscure.

In position the axis of the heart is directed from above downwards and to the left, two-thirds of its bulk passing to the left, and one-third to the right of the median line of the sternum. Its upper border corresponding to a line drawn across the sternum on a level with the upper border of the third costal cartilages, its apex lies immediately behind the sixth left costal cartilage inside the mammillary line. The lungs passing downward from their apices meet each other behind the sternum at the level of the second rib and are separated only by the mediastinal fold of the pleura until they the reach level of the fourth rib where they again diverge. Thus it will be seen that both auricles and part of the ventricles are completely covered by lung tissue, which is a very bad conductor of heart sounds, but after the divergence of the lungs at the level of the fourth rib we have about one-half of the right ventricle and the apex of the left, between which and the chest wall no lung tissue intervenes, yet the extent of heart surface not covered by lung tissue is subject to constant variation; during deep inspiration the edges of the lungs may converge so as to cover the entire surface of the heart, and on the other hand during forcible expiration the margins of the lungs recede to such an extent that the larger part of the heart's surface comes close to the chest wall.

The extent of the movement of the thorax in nor-

mal respiration is also controlled to some extent by the position of the body, and is one-half centimeter less in lying down than in standing, also in turning from the back to the side in the recumbent position the lung which is uppermost descends from two to three centimeters.

From what has been said concerning the anatomical relations of the heart and lungs it is evident that in the normal condition of the thoracic viscera, the heart is but little displaced vertically by a change in the position of the body, but that its transverse position is readily affected by such change, also that the principle obstacle in the conduction of the sounds of the heart is the presence of lung tissue between the organ and the walls of the chest, which shows the great necessity of not only examining a patient during tranquil respiration, but also during forced expiration.

I now wish to speak of one position in auscultation of the heart which I regard as of great importance and in which I am compelled to disagree with some of our standard authorities. Paul Guttmann says all murmurs are louder when the patient stands or sits than when he is recumbent. I now wish to say that nearly all murmurs are louder when the patient is recumbent than when he is standing or sitting. I am willing to admit that in somewhat rare instances murmurs can be heard more distinctly in the erect than in the recumbent position, but in a large majority of all cases where murmurs are detected in the upright position they will be greatly increased by placing the patient in dorsal decubitus. According to my own observations this rule holds good in 78 per cent. of all cases examined.

I will here give statistics of one hundred consecutive examinations in which I have kept a record to determine this point (and so far as I am aware they are the only statistics which have been collected bearing on this matter) which are as follows:

Total number in which murmurs increased during dorsal decubitus, 78. Murmurs not effected by changing position of body, 12. Murmurs not perceptible in standing, but developed on lying down, 4. Murmurs more developed in upright than in recumbent position, 6. These examinations were all made upon the soldier population of the State of Michigan, and each applicant was carefully examined by my two colleagues, and the accuracy of these statistics fully concurred in.

This was followed by a paper on

NUTRITION.

BY M. J. CROUCH, M.D.,
OF UNION, KY.

I do not propose to present to you more than a suggestion of the merits of nutrition, and its relation to pathology. My studies along this line have forced me to conclusions which seem of vital importance to the science of medicine. It is true, our conclusions are more or less colored by the environments of the place from which we view the subject—so let us view the subject from analogous laws of nature.

From the true scientific standpoint, in the organisms lie the principles of life, in the environments the conditions of life.

The cart has been before the horse long enough—let us reverse the awkward position, and place them in a more practicable way. Instead of teaching that an *abnormal nutrition* is the *result* of "*disease*," let us teach that "*disease*" is the result of abnormal nutrition. Then, and not till then, will we make progress toward the goal of medical science.

The most important part of physiology is *nutrition*. The most important part of pathology is *nutrition*. Disease is not an entity, but the result of an abnormal or vicious nutrition. It is a process, differing from the normal processes only in *form* and *course*. All normal growths must be nourished, or they degenerate and die. So all morbid growths must be nourished, or they undergo like changes. What is the difference between the two conditions? Only a difference of nutrition. In the former it is according to natural laws, in the latter in violation of those same laws—it is vile.

There are natural laws reaching across the length and breadth of the whole organic world. Even the inorganic world is not without laws. Thus, from the lowest to the highest, *all* are subject to the powers that be.

Chaos does not exist anywhere in the known world; not since the hand of God moulded it into the things that be. Seeing all things are subject to natural laws, it is not reasonable to suppose that the most perfect creatures of God's handiwork, even the crowning piece—man, should be a monstrosity in the universe. Yes, man was created under, and lives and dies under natural laws, as well as spiritual laws, *which spiritual* laws are but a reaching upward of the laws of nature.

Progress is expected, and nutrition emphasized, in every part or parts, portion or portions of the known organic world. It is the same cry that has come rolling down the ages, and has found an echo wherever organic matter lived, from time immemorial: "Give us bread or we die." So demand all living organic bodies, and man is no exception. Then, if an end is so important, the means unto that end must be of vital importance.

Life is the desideratum of all living creatures, and nutrition is an absolute necessity—*the only means to that end*. Then nutrition must be the most important process in life.

Is it "fever" you would inquire about? Is there not a normal heat production in all living organic bodies? Find its source, form and course, and you will have no trouble with the abnormal condition, for every abnormal—diseased—condition has its prototype in the normal, physiological. It could not be otherwise according to the laws of nature. When the nutrition of the body is normal, the heat produced and functions performed by that body are normal.

When the nutrition is abnormal, the heat produced and functions performed by that body are abnormal, and as varied in results and as far-reaching as pathology. Thus inflammations, hyperplasias, hypertrophy and different degenerations may be due to the same form of nutritive disturbance, the different results due to the different *course* pursued. The cause is the same, the results varying as the form and course vary. These varieties may become less numerous, as we become more familiar with the cause. You wish to know the nature of this cause? I told you that nutrition was at fault—*first*, last, and all the time. The causes of this faulty nutrition are predisposing and exciting. The predisposing causes would embrace all such as heredity and environment. Exciting causes would embrace all such as were irritating to the organism. Here the field broadens, and the eyes wander over unlimited space, bringing into view many strange things, difficult to see and to understand. It

is ever so in a new country to the first explorers. I only hope to point to the way, go as far as I *can*, and trust others better equipped, and time, will open up the way and reap the harvest. So, in concluding these suggestive thoughts, I recapitulate the pertinent point, that normal nutrition is to physiology what abnormal nutrition is to pathology.

The chairman then announced the following Executive Committee for the Section: Dr. H. A. Hare, Philadelphia; Dr. I. E. Atkinson, Baltimore; Dr. N. S. Davis, Jr., Chicago.

THIRD DAY—JUNE 9—MORNING SESSION.

A paper was read entitled

THE CARDIAC INDICATIONS AND CONTRA-INDICATIONS IN THE TREATMENT OF PNEUMONIA.

BY J. M. ANDERS, M.D., PhD.,

PROFESSOR OF THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, MEDICO-CHIRURGICAL COLLEGE, PHILA.

It is a well known fact that in acute lobar pneumonia failure of heart power is the immediate cause of death, as a rule.

In the first place there are three leading factors which enter into the causation of cardiac-insufficiency in this disease, which factors may operate singly or in combination. They may be conveniently considered under as many different heads, to-wit:

First. The heart failure may be due to the toxic effects of the ptomaines present in the blood, on the heart muscle and ganglia.

Secondly. It may be due in part at least to the obstruction offered to the pulmonary circulation by the inflammatory exudate in the air vessicles.

Thirdly. The formation of cardiac thrombi may lead to right ventricular dilatation and exhaustion of heart power.

Pneumonia belongs to the acute infectious diseases, hence it is intelligible that on account of the overwhelming of the system by the ptomaines produced by the pneumococcus, the heart may become exhausted. It is not an uncommon event in the experience of the busy practitioner to meet with instances of this malignant and fatal type of the affection. These cases can as a rule, be recognized during the progress of their brief course. Auscultation of the heart reveals a feeble, short, first sound, associated usually with a feeble aortic and pulmonic second sound. The pulmonary artery second sound is sometimes accentuated when these cases reach the stage of complete consolidation, though most generally for a brief period only. But though the heart power fails under these circumstances there are few special indications presented by the organ for treatment.

Alcohol in *moderate* doses is of the first importance since it aids the digestion, imparts vigor to the heart muscle, stimulates respiration and the nerve centers. We should supplement the action of the alcohol by the administration of strychnia which stimulates, more particularly, the cardiac nerve ganglia, the vaso-motor and the respiratory centers. Digitalis is to be employed cautiously, indeed, is only useful when the pulse becomes very frequent as well as irregular or intermittent. Under these circumstances digitalis, by lengthening the period of diastole, facilitates the nutrition of the cardiac muscle.

In this connection the investigations of Drs. G. and F. Klemperer, carried out to ascertain among other things, whether pneumonia can be cured by the blood serum of immune animals, or those that have recovered from the disease, are of considerable interest and importance.

Their experiments "confined to rabbits show that the inoculation of any nutrient medium, in which the pneumococcus has been cultivated will protect an animal against pneumonic septicæmia. Again, serum from animals enjoying immunity cured pneumonic septicæmia, especially when introduced into the circulation, and this in 24 hours, as a rule. It was found that when the pneumococcus enters the body of an animal it generates a poison 'pneumotoxine' which can be isolated: this sets up a febrile condition, lasting several days, by which time another substance 'anti-pneumotoxine' is formed, and through its influence cures pneumonic septicæmia."

The drugs employed, in the most prevalent methods of combating the local engorgement of the lung in the first stage of pneumonia, for their influence upon high temperature to some extent, as well as upon the heart, are veratrum viride, aconite, and antimony. To the depressing effect on the heart of the pneumonic poison, the majority of physicians are still in the habit of adding the depressing influence of cardiac sedatives. Now whilst I am willing and ready to concede to the facts, that veratrum viride and aconite act as vaso-motor depressants, quiet the heart and relax the blood-vessel walls, I affirm without hesitation that they do so at the expense of cardiac power,—a thing to be scrupulously avoided. Again, it is undeniably true that if the exhibition of arterial depressants do not abort the disease promptly, then an additional load has been imposed upon the heart, whilst the pathological changes, owing to the fact that this disease rapidly undermines the vital forces, have received new impetus.

To attempt to relieve engorgement of the lung is justifiable, and this can frequently be most safely accomplished by local means, especially cupping and leeching or by the application of the ice box. The excited action of the heart which tends to keep up the pulmonary engorgement may be controlled by the use of morphine which also allays nervous excitement and pain without depressing the central organ of circulation. In sthenic types of the affection moderate bleedings from the median basilic vein would meet the same indications more promptly, and with less danger from ulterior deleterious effect upon the heart than by the use of such remedies as aconite, veratrum viride, antimony, etc.

Prof. H. C. Wood,[1] contends that the administration of veratrum viride bleeds the patient into his own abdomen, leaving the blood to be utilized subsequently when needed; and in this fact, he tells us, lies the advantage of veratrum over venesection. This noted observer admits that this agent depresses the heart, but claims that it does not exhaust it. Now it seems to me that to depress the heart which is already over-burdened, even for a couple of days, must tend to "exhaust it." Occasionally cases are met with in which there is a comparatively large area of lung tissue consolidated with a disproportionately mild type of systemic infection. The heart acts regularly, the first sound is good and the pulmonary second sound is accentuated. In these instances arterial sedations are not so fruitful of evil results, but they recover all the more promptly when the use of this class of remedial agents is omitted.

[1] Medical News, January 18, 1890.

In the severer forms of acute lobar pneumonia, the temperature it is well known, is often high and rarely there is hyperpyrexia. The question that confronts us here is, Can we produce the temperature in this disease without increasing cardiac weakness?

Generally speaking pneumonia is a self-limited disease, the crisis being reached usually before the end of the first week. Hence there is little need to attempt to lower temperature in a direct manner in the majority of instances. A temperature not exceeding 140° F. calls for nothing more than frequent cold sponging of the surface and the exhibition of moderate doses of quinine, for example, 16 to 20 grains daily in divided doses. This drug has a slight antipyretic influence whilst it does not depress the heart, but rather supports it. Such internal antipyretics as phenacetine, antifebrin and antipyrin should be rigidly eschewed, since their good effects in combating high temperature is more than counterbalanced by the evil consequences in depressing the cardiac, respiratory, and vaso-motor nerve functions. Very high temperature demands cold to the surface either in the form of cold packs, or cold or gradually cooled baths. This method I have recently followed with very gratifying results. Dr. Bordman Reed,[2] as the result of a statistical inquiry into various modes of treatment,concludes, "That water locally applied either by wet packs or in the form of baths, after the Brand method, is the most efficient single remedy or therapeutic measure for acute pneumonia."

We come now to the consideration of the second causal factor in the production of cardiac exhaustion, or that due to the barrier offered to the pulmonary circulation by the presence of the inflammatory exudate in the air vesicles.

In the first place it may be questioned whether the mere obliteration of a single lobe or even larger mass of lung tissue seriously interferes with the respiratory function, seeing that in animals as well as in man, life may be maintained for a long period after one entire lung has become impervious to atmospheric air. Neither do I believe that the power of the right ventricle would be inadequate if pneumonia consisted merely in a localized inflammatory process. This organ, therefore, is always predisposed to further anatomical changes, on account of the weakening influence of the ptomaines in the blood. It is readily seen then why, in many cases, the backward effect of the obstructive influences in the lungs are evidenced by the development of an overfilled and dilated condition of the right ventricle. The physical signs present, together with the signs of venous stasis, easily distinguish this condition from failure of the whole organ in consequence of intense systemic infection. The pulmonary second sound, which is at first accentuated, due to the strong action of the right ventricle and the strong recoil of blood in the pulmonary vessels, becomes progressively weaker until exceedingly feeble, *pari passu* with the diminution in the power of the right ventricle. This condition of the right heart is associated with an œdematous condition of the lung, and great difficulty with the respiration, as a rule. The complexus of morbid conditions present in these cases is to be relieved by increasing right ventricular power on the one hand, and by removing the redundant liquid from the lesser circulation on the other hand. The latter indication is to be met by the repeated use of wet or dry cups. If in spite of these measures there is a definite increase in the severity of the symptoms, then free bleedings constitute sound practice. Venesection here acts in accordance with ordinary hydraulic principles, and only in this way. To attain to the same end some authors recommend dilating the arterioles by the use of the nitrites, etc., thus inviting the blood from the venous system to the arterial. If it were not for the fact, that in these cases too little blood reaches the left ventricle, the mode of treatment before alluded to should be sanctioned. In my opinion the physician's chief aim should be to propel more blood from the right to the left ventricle, after having removed as much of the obstacle in the lungs as possible, though to accomplish both objects i.e., dilating the arterioles and facilitating the cardio-pulmonary circulation without debilitating the heart would be the ideal treatment. I have recently attempted this, have administered digitalis with a view of increasing the capacity of the right ventricle for work and simultaneously have given small doses of nitro-glycerine for its effect in relaxing the blood vessel walls, with apparently good results. I was lead to use nitroglycerine in consequence of having learned the fact, that, in small doses, it is a cardiac stimulant rather than depressant, and hence, is not open to the same objections which I have urged against arterial relaxants as a class. Strychnia in large doses, and alcohol in moderate doses, must be added to the treatment. Doubtless strychnine is the most potent single agent to support the heart under these conditions. It is most efficient when administered hypodermically in doses of $\frac{1}{10}$ grain every four hours. Inhalations of oxygen are useful in these cases; they relieve dyspnœa and the frequency of the respirations by furnishing sufficient oxygen, in greatly diminished bulk, to ærate the blood. Thus they also accelerate the blood current through the lungs, since it is well known that respiratory impurities in the blood retard the flow of this circulating medium. Oxygen should be employed in this manner when the cyanosis and dyspnœa continue to grow definitely worse despite the use of alcohol, digitalis and strychnine. I have seen truly surprising results from its employment in well selected cases of acute lobar pneumonia in hospital practice.

The formation of cardiac thrombi in the course of the disease constitutes a more influential factor in the production of cardiac exhaustion than is generally supposed by writers on this subject. Doubtless they are often preceded by commencing heart failure, and often, too, are associated with œdema of the lungs.

In acute lobar pneumonia the fibrin factors of the blood are greatly increased; a condition favoring their generation. And, to facilitate the same result, we have the over-filled state of the right heart as well as the sluggishness of the circulation in both heart and lungs. During a recent discussion of the subject of the treatment of lobar pneumonia before the Philadelphia County Medical Society, I took the position that "heart clots" are frequently followed by dilatation of the right ventricle, cyanosis and finally death. Two of the speakers, Drs. S. Solis-Cohen and Judson Daland, subsequently sustained me in this view. Dr. Daland stated that in the course of some examinations of the blood from patients ill of various diseases, he had occasion to examine blood taken from several cases of acute lobar pneumonia; and that when he attempted to examine specimens of this fluid

[2] Therapeutic Gazette, March and April, 1892.

it would coagulate in the capillary pipette with great rapidity, hence requiring special manipulations to make the investigations.

The symptoms vary with the rapidity of their production. When this is gradual, the signs and symptoms are not immediately urgent; the dyspnœa is increased, the respirations more hurried, the pulse becomes more frequent, finally irregular and intermittent. The physical signs are somewhat peculiar. The cardiac impulse is often irregular, while the area of the heart's percussion dulness extends to a point beyond the right edge of the sternum. On auscultation a systolic murmur is often heard over the xyphoid cartilage, which murmur is transmitted upward and toward the left. The physical signs referable to the right heart may arise independently of œdema of the lungs—a fact which goes to show that heart clots may be, most probably, the starting point of a series of conditions leading to a rapidly fatal issue. Dr. B. Ward Richardson long since directed attention to the value of the ammonium salts in this affection with a view to maintaining the fluidity of the blood; and in this opinion I heartily concur. If there be reason to suspect the presence of thrombi, the administration of the preparations of ammonia, though they offer little promise of giving favorable results, should be vigorously pushed in the hope that the clots may be dissolved.

Alcohol and digitalis are to be employed cautiously, while strychnine is to be administered hypodermatically in full physiological doses; and when collateral fluxion in the lungs with serious respiratory disturbance develop, oxygen inhalations, for the reasons previously adduced, must be employed.

In conclusion, I desire to re-affirm a few of the more salient points already rehearsed in your hearing. To the fact that there are three leading causes of heart insufficiency in acute lobar pneumonia, especial emphasis should, I think, be given. Among these, the baneful effect upon the heart of the toxic matter in the blood is the most pernicious, is a factor in every case, and is not unfrequently the sole cause of death. Cardiac exhaustion due to the action of these ptomaines can be differentiated and presents peculiar indications for treatment, specially useful being antiseptics, alcohol and strychnine.

In a large proportion of cases the right heart, already weakened on account of general infection, becomes further weakened and finally exhausted as the definite result of the obstruction opposed to the circulation in the lungs. In these instances the right ventricle is over-distended and congestive œdema of more or less of the non-consolidated portion of the lung exists. This combination of conditions calls for relief in two directions. First, the removal of the abnormal blood pressure in the pulmonary vessels must be relieved either by cupping or free bleedings; the cardio-pulmonary circulation must be facilitated by using inhalations of oxygen, and strengthening the right ventricle, by administering digitalis generously, strychnine and alcohol. The use internally of the nitrites in small doses is to be advised, while the use of all other arterial relaxants *is to be condemned*, since the agents that accomplish this end tend to depress the heart.

The third, though perhaps, not the most unimportant cause of right ventricular exhaustion, are the cardiac thrombi, which are generated largely in consequence of the sluggish pulmonary circulation and the increased tendency to coagulation of the blood. Their presence is frequently demonstrable during the progress of the disease. For the purpose of preventing their formation preparations of ammonium should be employed, since, as before indicated, they tend to preserve the fluidity of the blood. When "heart clots" of appreciable size exist, and even when their presence is only highly probable, this agent should be exhibited in liberal amount, though as before intimated it is quite doubtful whether the remedy is powerful to liquify these offending masses. Digitalis is to be used cautiously, alcohol in moderate doses and strychnia liberally.

Dr. Bailey, of Louisville, in opening the discussion remarked that he believed the treatment of croupous pneumonia depended almost if not entirely upon the management of the heart. He thought the essayist had given us a most admirable explanation of the heart's action and the course for the proper treatment of the disease. The proper means of reducing the temperature is of the greatest importance. Is there a remedy by which we can reduce it with as little reduction of the heart action as we can by the use of cold water? This preparation he thought we had in phenacetine. He was as willing, he said, to use it in this condition as he was cold water. He believed also that in that condition in which the avenues of the circulation are congested and it is recommended to abstract blood, good results have not been obtained from venesection since fifty or sixty years ago. He commended the ammonia preparations for the conditions indicated but thought they had no power to dissolve clots already formed, although they may prevent the formation of them. He recommended also the nitrite of amyl for opening up the capillaries and getting rid of obstructions, but the principal remedy is digitalis, which he thought was worth all other remedies combined for the relief of obstruction in the lungs.

Dr. Truax, of New York, desired to endorse Dr. Ander's paper, particularly what he had said on the subject of venesection. For a number of years, he said, I have been in the habit of extracting blood in conditions of great embarrassment to the circulation. I have done it experimentally. I have had the internes of the hospital pick out six or seven, or eight of the cases whom they thought most likely to die of heart failure and those who seemed to be the worst, and we have tried different forms of treatment over and over and over again. There is no doubt in my mind that there is any other means by which embarrassment of the circulation in the lungs can be removed and the heart enabled to do its work as by venesection. Stimulants will tide over the heart's action until the congestion is removed. I am sure that hundreds die every year who would be saved if they were bled.

Dr. Herrick, of Cleveland, stated that his line of inquiry would not agree with that of the essayist. He thought we were given too much to theory as to the causation of pneumonia. In this respect he confessed that he was somewhat adverse to the profession as to the theories of the causes of disease. He opposed the bacteriological origin of disease.

Dr. Greenlee, of Kentucky, expressed hearty endorsement and approval of the views of the last speaker. He saw no reason for the supposition that there is a micrococcus!

Dr. Pennell, of Ohio, thought that in some cases you must whip the tired heart up by the use of stimulants, whereas in other cases, venesection must be resorted to.

Dr. Didama, of New York, remarked that Neimeyer and other standard authors state that in some cases the congestion must be reduced by the removal of blood.

Dr. Musser, of Philadelphia, said that this is a subject which demanded from us a clear and full consideration. We ought to have clear ideas on the subject of pneumonia; and the clearer cut our ideas are, the better will we treat the disease. But if we are asked how to treat pneumonia, we can not lay down any rule. Our lines of treatment must be based upon the study of the individual case; nevertheless, we can form certain general ideas which we can keep in view. He was thoroughly convinced, and believed that he was in accord with modern pathology, that pneumonia is a specific infectious disease. Such being the case, we turn naturally to the form of treatment which might be considered specific; but such we do not as yet know. We have no specific means of combating this disease any more than we have for the other specific diseases, unless we except malaria. The treat-

ment therefore resolves itself into the treatment of the inflammatory process, and there is no doubt about it that we have only three measures, actual, positive measures that we can always rely upon, for the combating of inflammation. They are cold, bloodletting and rest. Of the importance of cold locally, I am thoroughly impressed. I am also thoroughly in accord with the remarks that have been made on the use of bloodletting. I believe that in almost all cases it would be of advantage. It certainly would not do any harm and it might do a great deal of good. Advantages would arise in almost every case if bloodletting were practiced early. We must, however, be careful as to the indications for bloodletting. We must consider the physical signs, and not only these, but the condition of the pulse, the respiration and the temperature.

Absolute rest is important—not only the rest of the patient in bed, but the freedom from anxiety—perfect nursing is indicated. In securing this complete rest, opiates are demanded. I am always glad to give opium or some of its preparations. Possibly opium may help to allay inflammation as some pharmacologists think.

One word, the speaker continued, with regard to the use of proper remedies. I think that strychnia is a proper remedy, and it may tide our patient over sometimes when they are sailing pretty close to the shore. I am in favor of nitro-glycerine, particularly if there is any tendency to heart failure or chronic parenchymatous nephritis. Of digitalis, I cannot say much. I would prefer alcoholics and preparations of ammonia. Of alcoholic stimulants, we must say that a certain time comes when champagne can be used instead of whisky, and I am sure that the use of this readily diffusible stimulant has stood me in good stead.

We cannot estimate too highly the beneficial effect of good nursing. As to blood letting in the later stages, I am sorry to say that my experience has not been very good. In nearly all of my cases death has ensued in spite of the venesection. Oxygen, I am glad to endorse.

Dr. Anders, in closing the discussion supported the view that pneumonia is an acute infectious disease. In regard to the treatment, he said that so long as we have no specific antidote, we must simply endeavor to support the patient until the disease has subsided.

Afternoon Session.

The only papers read at the afternoon session were those on

THE ANALOGY BETWEEN ACUTE IDIOPATHIC PLEURITIS AND ACUTE ARTICULAR RHEUMATISM.

BY E. L. SHURLY, M.D.,
OF DETROIT, MICH.

In the year 1887, I read a paper bearing the above title before the Michigan State Medical Society, which at the time attracted very little attention. However, subsequent observation of these diseases has led me to think that too little importance has been placed upon this question; and for this reason, I venture now to bring the matter again to public notice.

Attention was first called to this relationship by Vallieux in 1854, and afterwards by Davis, of London, England; but without awakening much thought at that time or subsequently.

In the paper alluded to, the theoretical basis assumed of the identity of the two diseases was mainly twofold, on the one hand histological, because the pleura as well as the synovial and other serous membranes spring from the same primordial layer, the meso-blast or middle layer, and ultimately develop into the endothelial layer which is the lining of all closed cavities, and, on the other, because a correspondence between the phenomena characterizing the general history of the two diseases seems to exist.

This will become quite convincing if one takes the pains to carefully generalize and compare the various steps in the progress of the two diseases, idiopathic acute pleuritis and acute rheumatic arthritis. Besides, noting how frequently the pleural as well as the pericardial structures participate in the rheumatic affection, I am aware that such a complication of articular rheumatism is not recorded by medical writers as of common occurrence. Yet, I believe, with all due deference, that it is because it is so frequently overlooked, just as syphilitic pleuritis has been, until recently, so generally overlooked; nor would such a mishap appear unusual when we consider how insidious and often localized may be an attack of fibrinous pleuritis. I certainly believe that a retrospective view of the clinical histories of cases of articular rheumatism by any practitioner present would recall certain signs of pleural implication, which, at the time, went unobserved, or were attributed to either secondary or concomitant manifestations, or cardiac complication.

I may mention such complaints as fugitive pain in the side, transient respiratory embarrassment, sudden exacerbations of temperature unattended by increased joint disturbance, etc.

Often, these phenomena are taken as denotive of peri-cardiac or cardiac implication, although close physical exploration fails to recognize the pathognomonic signs. Yet the mind is so intense upon the usual course of events, that failure to recognize the adventitious cardiac sounds, is attributed to lack of auditory power—so strong, in the best of human minds, is preconception.

It occurred to me a few years ago, after listening in vain for signs of cardiac disease in a given case, and when about to give up the search—but not the conviction—that I chanced to place my ear in the infra-axillary region and there detected a slight pleural friction sound, which, of course, determined the diagnosis, and which, I must say was amply corroborated by the subsequent course of the disease.

Besides these considerations we may apply as an additional proof the crucial test of treatment, a practice we are all familiar with, for the purpose of clearing away obscurity surrounding many cases of undetermined syphilitic disease. In this way one may often observe with great gratification the prompt check to the course of acute fibrinous and fibrino-serous pleuritis, and the rapidity with which the effused material is absorbed.

In illustrating the point, I would cite a very serious case which came under my observation lately in association with my colleague, Dr. Chapaton, one of our keenest observers, in which nearly the whole left pleural surface together with the pericardium was involved.

Without wearying you with details, suffice it to say, that under a so-called anti-rheumatic treatment principally—such as the salicylates—the disease rapidly declined in a manner, to say the least, not possible under the established plans of treatment adopted for this disease. In this case there were no arthritic manifestations, until about the tenth day, when the patient complained of pain and slight swelling of the right hip joint and vertebral joints.

In other cases which I have observed, one of the knee-joints seemed to be the elected spot. Although some cases where the pleura was the primary seat of disturbance, never showed any arthitic disease.

Koster, in a late article published in the *Therapeutische Monatschr.* says that the use of salicylates in the treatment of pleuritic effusions has not become as general as it should. He has treated thus thirty-two cases, twenty-seven of which were primary and

five secondary. In some of these cases the effusion disappeared in from five to seven days. The results were most favorable in recent cases, although in all but ten the absorption was very rapid. As usual with German writers, he does not mention the observations made in regard to this subject by persons of other countries.

Before concluding there is another point I would like to call attention to, and that is the prevalence simultaneously of acute articular rheumatism and acute iodopathic pleuritis in certain localities. Is it not frequently observed that those regions which furnish many cases of the one disease, also furnish many cases of the other and *vice versa?*

Hereabouts, neither acute pleuritis nor acute articular rheumatism are common. While in districts where one of these affections is common, I have found upon inquiry that the other also is frequently met with.

In conclusion I would emphasize in the first place the necessity for "looking out" for pleuritis in connection with articular rheumatism and *vice versa;* and, secondly, would urge the treatment of acute idiopathic pleuritis mainly upon an anti-rheumatic plan, both dietically and medicinally.

This was followed by a paper entitled:

ADDITIONAL EVIDENCES OF THE VALUE OF FORCED RESPIRATION (FELL METHOD), IN OPIUM NARCOSIS. REPORT OF CASES.

BY GEO E. FELL, M.D., F.R.M.S.,
OF BUFFALO, N. Y.
LATE PRESIDENT AMERICAN MICROSCOPICAL SOCIETY; PROFESSOR OF PHYSIOLOGY AND MICROSCOPY, MEDICAL DEPARTMENT NIAGARA UNIVERSITY; PHYSICIAN TO SISTERS OF CHARITY HOSPITAL, ETC.

It is now nearly five years since I saved my first life by systematically respiring for a human being by forced respiration. Up to the present time nineteen human lives have been saved by this means. The method has been given as great publicity as possible by publication in well known medical journals and proceedings of societies. The fullest detail as to the arrangement of apparatus has been described, so that the successful methods could be utilized and the apparatus prepared by any one sufficiently interested. I have always been willing to aid and assist any one disposed to utilize the method. The most simple means by which the operation could be satisfactorily performed have been detailed, with a view of aiding the practitioner in urgent cases where the complete apparatus could not be obtained. However, what results have been accomplished as already stated, the saving of nineteen human lives, have with few exceptions taken place through my own individual endeavors. Many human beings, as the reports of the daily press have indicated, have been forced to cross the "Styx" when preventive means existed which the members of the medical profession could have utilized, had they taken advantage of the statements and facts freely presented to them. It may not be entirely truthful to state that the medical profession in America is ultra-conservative regarding the use of "new methods," in the face of the wild furor over tuberculin, or the Brown-Séquard elixir. The latter quickly settled itself, and the former the best authorities now appear to discredit as anything of a specific for tuberculosis. How has it treated forced respiration, in its success an entirely American idea, and which from the first intelligent application gave results that could not be questioned by even those inclined to be jealous and unfriendly? It has not even been made the subject of special comment in the medical institutions of the day; so that the graduates in medicine of but few colleges in the land are intelligently qualified to carry it out, and medical practitioners are not prepared to use it or apply it when supplied with the apparatus. This was quite interestingly demonstrated in a case (No. 25) which was presented not long since, at a time when I was unable to attend, and sent my young nephew with the apparatus to assist two regular practitioners in the saving of a human life from opium narcosis. Although both residents of my native city, and the methods of forced respiration being very simple, these gentlemen were not sufficiently well acquainted with the simple details of the apparatus to use it intelligently. My student, a young man about 16 years of age, having seen it frequently in use, assumed charge, and saved the lady by his efforts. I only speak of this to show that simple methods require more or less study and consideration on the part of any one, even capable physicians, who desires to use them intelligently; and I deprecate most fully the assertion of Horatio C. Wood, that any method upon which the life of a human being may hinge, may be used by "unskilled persons." Simple as forced respiration may be—and in this consists its greatest value to mankind—the saving of the life of many human beings has been accomplished in my hands, only by the skilful use of an apparatus specially adapted in detail for use upon man, and through practical knowledge which it has taken me some years to become satisfactorily acquainted with.

Another instance which indicates that medical press notices and publication in State Association Transactions will not suffice to impress upon the profession the value of forced respiration as a life-saving factor, was instanced in the case of Carlyle W. Harris, convicted of the murder of his young wife, Helen Potts, through the administering of morphia in fairly large doses. In one report of the case, it is claimed that young Harris desired or suggested to the physician who was attempting to resuscitate the young woman, that he make tracheotomy, having a vague idea only of its use. The physician appeared to know nothing about the method. In this one instance I have no hesitancy in stating that the life of the young woman could have been saved by my method of forced respiration, and in the event of the execution of Harris, we will have to record two lives lost through what will be some of these days almost criminal ignorance of physicians.

The public press is almost daily recording cases of death from narcotic poisoning or from drowning, in which the old methods have failed. Why not try something better, which has succeeded time and again where they have failed and must frequently fail?

Regarding the question of originality of my methods, I wish to again pay my respects to Prof. H. C. Wood, as he has given the impression through his statements before the Berlin Congress, that the apparatus I used was similar to that used in the laboratory upon lower animals, so that Dr. John O'Dwyer, of New York, has given public utterance to the statement which Dr. Wood first, and I think unwarrantably, urged. In an article in answer to Dr. O'Dwyer,

on the improved method of performing artificial respiration (see *Archives of Pediatrics*, May, 1892), I show nine marked practical features of difference between the apparatus which I have used successfully and the laboratory apparatus with which I saved my first life by forced respiration. I quote from my answer as follows:

"That used in my laboratory[1] before I devised my forced respiration apparatus for use upon man, consisted of a large foot bellows, a rubber tube to connect it with a large brass tracheotomy tube supplied with a valve, which had to be turned by hand to let the air pass into the lungs, and turned in the opposite direction to let it pass out.

"With this arrangement, each time the valve was turned, for the inspiration as well as the expiration, the trachea was given a wrench. I have found that it makes a great difference whether you are wrenching the trachea of a dog or a living human being. I overcome this feature of the laboratory apparatus by making my tracheotomy tube and the valve which controlled the air column in separate parts, connecting them by flexible rubber tubing. This would permit the patient to move about without endangering the trachea. This may be noted as the first feature differing from the laboratory apparatus.

"In the laboratory apparatus the trachea had to be ligated around the tube as Dr. O'Dwyer states, but *not so* in my apparatus. To prevent this, I screw to the tracheal end of the tube a larger or smaller ring, according to size of the trachea, which fills up the trachea, preventing an excess of air passing out by the side of the ring.

"This is the second novel feature of difference from laboratory methods.

"Again, I made the connection between the flexible rubber tube and the tracheotomy tube so that it could be easily and quickly disconnected. This is an important feature, and constitutes the third feature of difference between my own and the laboratory methods.

"The valve which controls the air also has some valuable features. 1. With it, the air can pass into and out of the lungs at all times, except during the forcible inspiration. Fourth and fifth differences from that of the laboratory apparatus. 2. The air from the bellows is constantly passing through the valve during expiration, thus allowing the air to immediately enter the lungs from the air valve when the piston is pressed down, without traversing the whole length of tube from bellows. Also, by the removal of the thumb from the piston of valve, the expiration takes place immediately, without any counter air current from the bellows. With this arrangement, auto-respirations can be assisted instead of interfered with, a factor of importance in many cases I have met with.

"This makes the sixth and seventh differences between my apparatus and that used in the laboratory.

"In the construction of the bellows I used a diaphragm of rubber dam (now a double bellows without perishable rubber), which equalized and produced a steady, instead of an interrupted or jerky column of air, such as Prof. H. C. Wood provides in his so-called 'cheaper apparatus,' with common bellows. Here we have the eighth difference between my own and the laboratory apparatus.

"If I wish to present still more features of difference, I might include the air heater, which I also have practically used upon cases of resuscitation of human beings. The eight features of difference mentioned above will, I trust, put a *quietus* upon the question of similarity between my own and the laboratory apparatus. What I have accomplished has resulted from *careful attention* to the details of *practical import* associated with an operation which holds human life in the balance, not by *slipshod* methods which have in the past relegated this operation to oblivion, and which methods some are now trying to revive. If the saving of eighteen human lives, the record of results with which my work must so far be credited, is not an argument in support of my statements, what 'under the stars' does or will give credence to human utterance? However, I have overlooked another similarity between the laboratory apparatus and my own, the face mask. Of course the face mask, every one will admit who knows nothing about it, was used in the laboratories in the days of Galen. Without joking, however, this constitutes the ninth marked difference between the laboratory apparatus and my own, and yet Dr. O'Dwyer does what appears to me an injustice, in speaking of the two as being identical. I desire to state that, notwithstanding an experience in laboratory vivisection work for eight years prior to my first operation of forced respiration upon man, it was not until this first operation that I was enabled to conceive its great value. All my experiments, the gradual unfolding through operations upon living human beings of the value of the face mask, should give weight to my words above those resulting from *experimentation upon dogs;* the conditions are very different. All that experimentation *upon dogs* has revealed as to the value of forced respiration in saving life I had previously demonstrated upon living human beings; when I began my work it was not even known that it would save a dog's life. Now a few words with reference to the evolution of the face mask. I had begun the operation of tracheotomy upon one of my patients, when my attention was called to the fact that he was dying, the dilatation of asphyxia taking place. I immediately placed the tube of the apparatus in his mouth, closed the lips about it, and compressed the nostrils; inspiration then being produced, I was pleased to find the purple deoxygenized blood in the tracheotomy incision change to a bright scarlet. I had many demonstrations of this character following, which gave me the idea of the face mask. Having a rubber cup used for cupping purposes, I fitted it to the face and saved several lives with it without tracheotomy before preparing the one I now use."

While the description of an instrument may appear somewhat detailed, and indicate that the method in operation is somewhat difficult, such in this instance is not the case. All there is to forced respiration is the forcing of air under suitable pressure and control, with proper periodic intermission, into the lungs. It can only be properly done with suitable apparatus. The simplicity of the method should give to the operation its widest range of usefulness; but to become practically acquainted with it one must see it, and study it before he can understand it. With proper instruction, the members of a life saving, or a ship's crew could be taught to utilize this valuable method of saving human life. I presume before the "conservative" (?) medical profession of America

[1] Medical Department Niagara University, Buffalo, N. Y.

will utilize this method, that thousands of its members must have their attention *specially* called to cases of resuscitation through its employment.

Another matter I may refer to at this time: I believe all will admit that the greatest credit which it is possible to obtain as the originator of a method of wide range of applicability in saving human life, consists in the largeness of the list of lives saved by it, and the just appreciation of its value by your fellow man. There is no higher aim that we as physicians can conceive, than that of preventing the vital spark from taking leave of the human organism. If this be true, it does appear unjust, unfair and unthankful that credit should be withheld from those who are entitled to it, and the medical world, in any section, use these methods without the greatest care in giving to those justly entitled, the credit due them.

This is the only payment which the profession allows those who accomplish results of *value* in fields unexplored. On this account, therefore, the original labors of physicians should be guarded with the utmost care in all sections of the globe. The following quotations (with additions) from a paper presented before the last meeting of the New York State Medical Association, will explain my reason for the above remarks:

"Through the kindness of Dr. Thos. H. Manley, of this Association, I am enabled to refer to an article in the Proceedings of the Paris Academy of Medicine, under date of June 2, 1891, in which Dr. J. V. Laborde, in a discussion on 'Anæsthesia' regarding the dangers of chloroform narcosis, recommends forced respiration, and has devised a face mask with which to perform the operation. This face mask is of metal, with the edges surmounted or faced with rubber, and includes the nose and mouth. It is, to 'all intents and purposes,' similar in detail to the one I have been using for some years, and with which I have saved a number of lives. Dr. Laborde speaks of his invention as novel, of great future value, declaims on the subject never having been brought up for discussion, etc. All the members of this Association, who have been acquainted with my work for the last four years, will agree that our Paris physicians can well afford to look Westward to learn that progress is not confined to Continental Europe. It is quite strange, also, that Dr. Laborde has overlooked the statements of Prof. Horatio C. Wood, in his address on 'Anæsthesia' before the Berlin Congress, 1890, in which he distinctly calls attention to my face mask, and which I had been using for two years previously.

"I am also astonished by the statement in the Paris Academy report, that noted French physicians have been using my method by tracheotomy with remarkable success, and without giving any credit for its practical introduction to the world from this side of the Atlantic.

"At the Paris Exposition of 1888, which had a department to illustrate life saving methods, one of my instruments was exhibited by Mr. George M. Bailey, of Buffalo, N. Y., who, having witnessed the remarkable case of Julius Barre, in which instance I respired twenty-four hours for my patient before he was able to breathe for himself, requested, in the interests of progress, the privilege of taking it abroad. He had with him reprints of my articles published in the Transactions of the New York State Medical Association, which were distributed among some of the physicians and jurors interested officially in the Exposition. At *that time*, through ignorance of the value of my method, they took no notice of my work as being worthy of note as a life saving invention. Even the representative of the United States Government at the Paris Exposition did not see anything of value in it, although no more remarkable cases are recorded in the annals of medical science than some of the first reported in my memoirs which were placed at the command of these gentlemen, but possibly not given the attention they deserved; but appropriated it, utilized it, and now claim originality for methods which I had previously used and first recommended in practical shape to the medical world."

The last case reported to this Society illustrated that forced respiration may be utilized as a tiding-over measure, and was reported in THE JOURNAL of the Association July 11, 1891. A number of interesting cases have taken place since, which are briefly described as follows:

Case 20.—In the surgical clinic of Dr. Hal. C. Wyman, Detroit Emergency Hospital Reports, reported by Dr. Robert S. Linn under Fell's Operation for Morphine Poisioning, as follows:

"Miss C., æt. 21. Had taken 20 grs. morphiæ sulph. about one hour before ambulance was called. Her condition when brought to Emergency Hospital was critical. Pupils were much contracted, and did not respond to light. Respirations were only five a minute and pulse quite weak. The stomach was evacuated of its contents with stomach pump, and about one pint of strong coffee injected into it. About 16 ozs. of urine were drawn from the bladder. A hypodermic injection of atropiæ sulph. (grs. 1-60) was given, and artificial respiration performed without benefit. An incision 2½ inches long was made in the median line over the trachea, tracheotomy performed, forced respiration kept up for about three hours, and the life of the patient saved."

Case 21.—Dr. Fell, Buffalo, N. Y. I was called by Dr. Eli H. Long, to attend a case of opium narcosis in a lady 78 years of age. She had taken a large quantity of gum opium. Respirations shallow, fourteen per minute, pupils contracted, coma existing. Face-mask applied, and used about eleven hours, when tracheotomy was made, but too late to save the patient. Convulsions set in, and continued uninterruptedly until death ensued. A mistake was made in this case in not performing tracheotomy earlier. With the face-mask the cyanosis was not satisfactorily overcome. Extension of the head, which was used with success for a time, had finally no influence in raising the epiglotis. A ligature through the tongue, by which the base of the tongue was raised, worked better. The cerebral hemispheres were greatly congested. Free venesection would have been beneficial if performed in season. The indications for tracheotomy existed for some time before it was made.

Case 22.—Dr. Fell, Buffalo, N. Y. I am under obligations to Dr. Allen A. Jones, Instructor in Practice, Medical Department University of Buffalo, by whom I was called, for the following report of this case, in which the face-mask demonstrated again its great value in a typically appropriate case:

"About 4 o'clock on the afternoon of Thursday, October 8, 1891, I was hurriedly summoned to the house of a former patient, and found her lying on a sofa unconscious, extremely cyanosed, her lips and ears being blue; her pupils were contracted almost to pin points, and her respiration was of the Cheyne-Stokes character, ceasing entirely for two or three full minutes, then coming with peculiar groanings and whistlings which died away until respiration ceased.

"I had been told over the telphone that she had taken morphine, but I did not know how much.

"Her pulse was frequent and small, but yet of good strength when I first arrived. I sent for Dr. George E. Fell without delay, with instructions that he should bring his apparatus for performing artificial respiration.

"While awaiting his arrival, with the help of those about me, I succeeded in restoring some color to the lips by artificial respiration (Sylvester's method). The pulse grew weaker and weaker, and the heart almost ceased beating before Dr. Fell arrived.

"It was impossible to give emetics per orem, so we gave one-fifth of a grain of apomorphine hypodermically, as soon as Dr. Fell arrived. Then with the patient on a table we instituted forced respiration (by face-mask).

"The patient's lungs filled easily and well without tracheotomy.

"We breathed for her steadily for about one hour, and then she moved her hands to her face and opened her eyes. Her cyanosis had entirely disappeared, and good oxygenation was manifest. The face-mask was taken off, and the patient breathed for herself in a long, slow, sighing fashion several times, but ceased entirely at the expiration of a few minutes. The lips turned blue once more, and she would inevitably have died had we not recommenced forced respiration again. Very soon she was again able to breathe alone, and temporarily stopping the forced respiration, we gave her mustard water, and she vomited profusely. We repeated the mustard water, but she did not vomit; her head fell back, respiration ceased, and again she was turning blue when we applied the face-mask and used forced respiration for the third time.

"After a short time we succeeded in inducing her to swallow another large cupful of warm water and mustard with a teaspoonful of salt in it, with the result that she emptied her stomach completely.

"As is common in conditions where the respiratory center is benumbed, emesis seems to stimulate the centre, and respirations were more willingly taken. Even at this junction, however—being about two and one-half hours from the time that forced respiration was commenced—she would certainly have died had it not been continued, as it was, altogether for four hours. At the expiration of that time, she breathed herself seven times in the minute, and in the morning her respirations were 20, her pulse 80, temperature 101.

"Dr. Herbert U. Williams, who kindly remained all night with the patient, stated that the pulse gradually fell, and the respirations gradually increased, from hour to hour, that he gave her a hypodermic of atropine (1-150 of a grain), of strychnine (1-60 of a grain), and of tincture of digitalis (15 drops) about 11:30 P. M. At 1:30 A.M. she had a cup of strong coffee, and a glass of warm milk at 2 A.M. At 2:30 A.M. she urinated freely.

"This patient said she took eleven grains of morphine dissolved in a glass of water at 1 o'clock on the 8th. I saw her at 4 P.M.; Dr. Fell arrived about 4:30; we performed forced respiration until 9 o'clock with the result that the woman's life was saved.

"I am convinced that ordinary artificial respiration would not have saved her life, and I cannot speak in too high praise of Dr. Fell's effectual and simple apparatus for forcing such a patient to breathe, if necessary, for many hours in succession. I think more physicians ought to possess and have in readiness Dr. Fell's apparatus, and many lives would be easily saved, where now they are lost because no such facility is at hand.

"It is interesting to note in this case that diplopia existed from the return of consciousness on Thursday evening until sometime Saturday morning: and for four days the patient thought a cup of food, or whatever it might be, in her hand was held at the lips, when in reality it was four inches from them, and at first she poured out milk and tea upon her dress."

Case 23.—December 1, 1891. Called to Erie County penitentiary by Keeper Albert H. Neal. Geo. C. W., a prisoner, had taken tincture of opium, 3 oz., and a quantity of sweet spirits of nitre, with suicidal intent at 1 P.M.

Grains .1 apomorphia hypodermically administered by Drs. Fohl and Hays, resident physicians, produced vomiting. I reached the case at 3:10 P.M. The conditions usually produced by the poison were present. After about one half hour's forced respiration work per the face mask, the cyanosis prevailing passed away; heart action became stronger, and patient became conscious at short intervals of time. This condition prevailed under forced respiration for some four hours, then auto-respiration ensued. The stupor was unusual, and I ascribed it to the intense congestion of the encephalonic vessels. Death I believe has been caused in several of my cases by this condition. At my request Drs. Fohl and Hays removed 4 oz., of blood from the left arm with quite satisfactory results, relieving the congested state, and aiding I believe very much in the saving of the life of the patient. This patient was put to bed before I left the case, and was apparently on the fair road to recovery. Some few days later to my great surprise I noticed that he died of heart failure. I had not seen him since my operation, although informed that he had progressed favorably until the time of his death, which occurred suddenly. The next case indicates, as this does also, the importance of sustaining treatment and careful watching of the patient for a few days at least following the operation.

Case 24.—Mr. C., a resident of Niagara street, Buffalo, a man not habitually accustomed to drink, came under the influence of liquor under peculiar circumstances, and is said to have taken 2 oz. of laudanum. He was taken by the ambulance to the Fitch Hospital, and treated in the ordinary manner by the surgeons in attendance at the hospital, but with unsatisfactory results. The wife and brother-in-law were called about 11 P.M., and they were informed by the physicians in charge that there was no hope for the patient; that everything had been done that was possible to be done. At the urgent request of the wife of the patient I was called about 11 P.M. I found the patient in a very precarious state, totally unconscious, and in danger of death supervening quickly.

I applied the forced respiration apparatus with favorable results. The cyanosis was overcome, and after some four hours' work the patient became conscious, respired for himself, and at 6:30 in the morning was taken to his home in the ambulance. A condition of stupor continued at his home for a number of days following the operation; he did not seem to improve as rapidly as was the custom until he was taken to a neighbor's house, when it was noticed improvement was rapid. He had been placed on stimulating and supportive treatment, but with apparently very little success. It was noticed, however, that there was quite an escape of natural gas at the stove connection in the room in which he lived, and very much of his slow recovery must be attributed to this, as after removal from the house he recovered very quickly, and on the leak in the pipe being repaired he was not further affected, and made a good recovery. This case illustrates the importance of hospitals being provided with an apparatus suitable for performing forced respiration. Had it not been for the special request of the wife of this gentleman, who was very devoted indeed, there is no question but that he would have died under the treatment used by the physicians at the Fitch Hospital. All had been done that artificial respiration or ordinary methods would accomplish, and yet within four hours from the time I was first called to see this patient he was placed out of a dangerous condition. The question arises whether, with such facts presented to the profession any hospital in the country is justified in not being prepared for cases of this character, which may at any time be presented to them.

Case 25.—Mrs. W., of Ellicott street, Buffalo, took an overdose of morphia. I was sent for, but was unable to attend owing to illness, and sent my apparatus in charge of my office student, a nephew 17 years of age. The case was reported as hopeless under the ordinary treatment, but quickly succumbed to the forced respiration per face mask, and made a good recovery. (See remarks page 130.)

At the next meeting of this Association, I expect to be able to present steam and electrical apparatus available in forced respiration and demonstrate with artificial lungs the various points urged in my papers upon this subject.

I would be pleased to have reports of cases which may occur sent to me at Buffalo, N. Y., and will incorporate them in my general report giving full credit to whomsoever will kindly act on these suggestions.

THE LOUISIANA STATE MEDICAL SOCIETY at its recent meeting elected the following officers: President, J. B. Elliott, Orleans; Vice-Presidents: First Congressional District, P. E. Archinard, Orleans; Second Congressional District, A. W. DeRoaldes, Orleans; Third Congressional District, A. J. Perkins, Calcasieu; Fourth Congressional District, J. W. Allen, Caddo; Fifth Congressional District, T. J. Turpin, Madison; Sixth Congressional District, J. S. Branch, Avoyelles. This committee on nominations recommended that New Orleans be made the permanent meeting place of the State Medical Society, and that the second Tuesday in May, 1893, be the date of meeting, and furthermore, that the secretary and treasurer be paid an honorarium of $150 in recognition of their faithful services.

THE degree of LL.D. was conferred on Dr. John M. Keating, of Philadelphia, by Seton Hall College.

THE NECESSITY AND BEST METHODS OF REGULATING THE PRACTICE OF MEDICINE.

Read before the American Academy of Medicine, at Detroit, Mich., June 6, 1892.

BY PERRY H. MILLARD, M.D.,

HONORARY MEMBER OF THE AMERICAN ACADEMY OF MEDICINE, DEAN AND PROFESSOR OF THE PRINCIPLES OF SURGERY AND MEDICAL JURISPRUDENCE, UNIVERSITY OF MINNESOTA.

Gentlemen: In reviewing the question of medical education in the United States the student of history will readily conclude that the facilities afforded pupils of medicine have been painfully inadequate, and that the minimum of requirements in a vast majority of colleges have been well below that standard which affords the public a profession possessing a degree of skill and ability commensurate with the safety of its people. It has been the policy of the authorities controlling these institutions of learning to maintain a standard below recognized safety. In addition to the very low curriculum, the resources of most colleges have been inadequate, and the clinical instruction most deficient. It is but recently that a majority of the colleges in this country have attempted a system of regular laboratory instruction. A study of the causes leading to this dilemma are many; among the most frequent may be mentioned the following: First, the history of pretended medical education in this country covers a period of little more than a century. The people possessing those elements of hurry and restlessness observed in all new communities.

Secondly, it has not been the policy of this government to liberally support university or higher education; a form of education reaching a high degree of perfection in the British Isles and Continental Europe, and embracing in its scope all special lines of advanced instruction, such as law and medicine.

Thirdly, the people being governed by a republican form of government, the policy has naturally been liberal in respect to freedom of action and choice of avocation; not infrequently this policy has been at a sacrifice of the best interests of a credulous public. In a monarchical form of government it is very much easier to restrict or control the action of its people.

Fourthly, in consequence of the late Civil War covering a period of four years, a half million young men found themselves penniless, with limited education and without avocation or a profession. Many thousand had secured a superficial knowledge of the art of medicine and surgery, from their war experience, and naturally, as a result, a horde of brave but uncultured men turned their attention to the profession of medicine. In consequence, the number of medical colleges in the United States doubled in a short space of time, and the list of matriculates increased at a much greater ratio. Notwithstanding the wonderful increase in population and resources of this country, in a period of a few years the proportion of physicians increased far beyond the legitimate demands of the public.

Fifthly, there has been a noticeable absence of that concert of action so necessary between the different schools of instruction to secure uniformity of system in education, or uniformity in the attempts at the elevation of the standard of medical instruction. There has been no restriction to the unlimited multiplication of the number of medical colleges. There has been no attempt to dictate the character of instruction by legislative control. There has been but little attempt to regulate the character of instruction even by the faculties themselves. In consequence thereof, the profession and public in the last few years have been casting about for a means or remedy to avert a disaster that seemed to imperil the very existence of the noblest of the learned professions. It became apparent to the observing and thinking that the profession of medicine was being degraded in its personnel, and but little respected by the people themselves. A condition was fast approaching whereby we were placed in quite as ridiculous a position as is described by Moliere in the fourteenth century. It required but a casual study of the situation at this time, to conclude that but one of two methods were available for the correction of the present evil. The first was, that the power to raise the standard of medical education in the United States was vested wholly in the various faculties of medical instruction and by concerted and business-like action they could readily comply with the most reasonable demands of the profession and the public, and in doing so, not materially injure their own interests in bringing about the much needed reform.

Secondly, that in failure thereof, the only alternative was in a resort to some restrictive legislation compelling the various colleges to raise their standard of instruction, both as applying to their preliminary entrance examination and curriculum of professional study. A sincere attempt was made by representatives of a few colleges in a period of time from 1876 to 1882, and there resulted from this effort the lamentable history of the American Medical College Association. The disruption of this Association was brought about by the treachery of a few representatives of colleges whose policy was governed entirely from a commercial basis. The disruption of this Association at the time was considered a great professional calamity, and the friends of higher medical education soon cast about for some method of bringing order out of chaos.

It was determined that the best means of controlling this evil was through efficient medical legislation. As a result members of the profession scattered throughout different portions of the country attempted to secure legislative enactments creating State boards of medical examiners. In a majority of these instances the attempts were met with defeat at the hands of the different legislatures, and a majority of the bills that had become laws were painfully defective, as could only be expected in any new form of legislation. The first act that was recognized as being efficient, and at all restrictive, was that of the States of Illinois and West Virginia. Immediately following we have substantially the same act in force in the States of Missouri, Iowa, Minnesota and Dakota.

This form of legislation permitted men to become legal practitioners by submitting a diploma issued by a regularly chartered medical institution. The act further provided that diplomas may be refused or revoked for unprofessional or dishonorable conduct.

The profession soon recognized and were convinced that the so-called Illinois act, if properly enforced would exercise a wholesome and restraining influence upon medical colleges and rid the public of the infamous practices of the itinerant charlatan. Those

of us whose painful duty it was to enforce the above named medical law, know too well, the Herculean task we had undertaken. The barriers seemed insurmountable, and our only solace was the realization that our cause was just.

It was my province to act as Secretary of the Minnesota board for a period of five years, or during the life of the first practice act. This act was substantially a copy of the act now in force in Illinois and several other States.

My experience and observation soon convinced me that we had upon our list of recognized colleges a large number of schools whose alumni were not safe practitioners. Any attempt to discipline these institutions was met in a most belligerent spirit, or by an influence well suited to the ward politician or political black-mailer.

I became firmly convinced that the principle of recognizing the diploma of colleges was not the correct one. I soon agitated the propriety of the amendment or entire repeal of the Minnesota act, or the securing of a new act calling for a personal examination of each and every person wishing to practice medicine in the commonwealth. The propriety of determining the fitness of men to practice medicine by means of a personal examination was recognized and acknowledged to be the proper method by the State Board of Minnesota. At a conference of Boards of Medical Examiners held in Chicago, in 1885, I urged the propriety of concerted action in an attempt to secure uniformity of legislation by an act in the several States, calling for an examination of each candidate for a license and providing, as in the Illinois act, the privilege of refusing or revoking licenses for unprofessional or dishonorable conduct. The concensus of opinion at this conference plainly indicated that it would be a step in advance, if we possessed legislation granting the privilege of examining all students wishing to commence the practice of medicine. The majority of those present, however, were of the opinion that the opposition would be so pronounced as to ensure defeat. The members of the Minnesota Board, however, concluded to ask the legislature for further legislation, and I was instructed to draft a bill for submission at the forthcoming session. The bill was the same as the one now in force in Minnesota and several other States. It became operative with us July 1, 1887. It established a minimum of time to be spent at medical lectures before a person would be permitted to apply for an examination to determine his fitness to practice medicine. It further provided for an examination of all persons wishing to commence the practice of medicine in any of its branches in the State. It likewise granted the privilege to refuse or revoke licenses for unprofessional or dishonorable conduct.

It was the first draft of a bill to become law which called for a minimum of time to be spent at lectures before commencing the practice of medicine. This feature of the bill has proven eminently satisfactory in Minnesota, and has been copied in the statutes of several other States. Its effect has been most salutary upon several of the medical colleges of this country, and as a result thereof, nearly every institution of this country whose term of lectures were less than six months have extended the duration of the same to comply with the statutory requirements of these States. At the present time, parties wishing to commence the practice of medicine in the following named States are required to prove their fitness therefor by undergoing an examination: Minnesota, North Dakota, Montana, Washington, North Carolina, Alabama, Florida, Virginia, New Jersey, New York, Nebraska, Maryland and Utah.

Nearly all of this legislation has been accomplished in a period of the last five years, and the present indications are that in the near future a majority of the States of the Union will secure quite adequate legislation. The agitation of this reform has met with quite bitter opposition from some sources; the principal opposition, however, coming from the authorities of the various medical colleges. This opposition has been most futile, as the situation of the profession in this country was readily recognized by the legislators, and because of the further fact that no rational argument could be rendered against the constitutionality or propriety of some form of restrictive legislation.

The necessity of restricting the practice of medicine has been recognized by all nations of civilized people from time immemorial. Every European country possesses most stringent practice acts and have for centuries. The so-called police power has likewise been recognized for centuries.

Traces of forensic and state medicine are as old as institutions of civil society. The Jews recognized mortal wounds. The Egyptians provided that no woman pregnant with child should suffer afflictive punishment. The Romans even from the period of Numa grounded many of their laws upon the authority of physicians. The Caroline Code, under Charles V., was established in 1532. The first traces of the exercise of police power as applied to the practice of medicine is found in Italy, in 1237. Here a license to practice was granted by the University of Salino after a study of philosophy for a period of three years and of medicine for a period of five years. This license was only obtainable after undergoing a satisfactory examination. Shortly after this date licenses were likewise granted in England.

The first degrees in medicine were presumably granted in 1384. The first efficient law regulating the practice of medicine in England was enacted in 1511. The progress of medicine during the seventeenth century has been ably described by Macauley in Volume 1, Page 310 of his history.

"Medicine," he says, "which in France was still in abject bondage and afforded for Moliere an inexhaustible subject of just ridicule, had in England become an experimental and progressive science, and every day made some new advance in defiance of Hippocrates and Galen. The attention of speculative men had for the first time been directed to the subject of sanitary police." An investigation reveals the fact that efficient regulation of medical practice and higher medical education progressed, hand in hand, from the period of time mentioned by Macauley down to the present time. The courts have universally affirmed the legality or constitutionality of the various laws regulating the practice of medicine in the different countries of Europe. In this country, the United States Supreme Court has recently rendered a decision affirming the constitutionality and general features of medical practice acts. A large number of the Supreme Courts of the different States have likewise affirmed the constitutionality of the different medical practice acts. In a few instances, in the lower courts, where decisions have emasculated the

power of State Boards of Medical Examiners, it has been due to the faulty wording of the act itself, rather than to any unconstitutional features that may be found in this form of legislation.

In a paper read by me at the session of the American Medical Association, held in 1888, I advocated a greater uniformity of medical legislation by the various States. This discussion lead to the appointment of a committee, with instructions to formulate the general features of a practice act that would be suitable for adoption in any of the different States of the Union. As chairman of that committee, I submitted the draft of a bill at the next session of the Association possessing the essential features of the act now in force in the State of Minnesota. The report of the committee was unanimously accepted and adopted, together with resolutions urging upon the profession of different States the propriety of at once attempting the establishment of efficient medical practice acts in the different States of the Union. I am gratified to observe that in nearly all instances where medical practice acts have recently been obtained, the essential features of the Minnesota act have been adopted.

The question of medical legislation should be considered from two standpoints, to-wit: That of the regulation of medical practice, and the regulation of medical education. In the performance of the first function Boards should consider that it is simply their duty to protect the public from the imposition of charlatans, and the grave errors certain to arise from the practices of uneducated men. The duties of the State Licensing Board end here. If the act is so worded as to likewise regulate medical education in the commonwealth, it is eminently proper that a minimum of requirements should be established, and the Boards authorized to exercise a general supervision pertaining to the character of instruction in all colleges whose alumni become applicants for the privilege of practicing in the State. I sincerely question the propriety of one Board performing both of these duties. Basing my opinion upon extensive observation and experience, I believe that the best interests of the public will be subserved by assigning the duties of the State Licensing power to the various State Boards of Health. The Medical Licensing power is purely a police power, and were these duties assigned to Boards of Health, it would assure greater prestige and influence in the community. I believe the regulation of all forms of education should be vested in a central power consisting of a single Board to be known as a State Bureau of Education with power to regulate all educational institutions granting degrees, together with the power of granting charters, and revoking the same; particularly should this apply to all institutions wishing to afford the community any of the various forms of higher or special education. Under existing circumstances, in a vast majority of the States of this country, three or more persons can form a corporation, and become incorporated by application to the Secretary of State and grant degrees *ad libitum*. Of the personnel of these Boards it is immaterial providing the parties be reputable and intelligent practitioners of medicine. It is my opinion that the mixed Boards, such as exists in Minnesota, Illinois, Iowa, Montana, Missouri, North Dakota and several other States of the Union, render better service to the public than in the few instances where separate Boards have been created in compliance with the demands of the several schools of practice. In the States possessing mixed Boards who conscientiously perform the duties of a public servant, I have yet to hear of any clashing or jealousy among the members thereof. I believe the best interests of the people will be subserved by the maintenance of a clause in each of these acts providing for the refusal or revocation of a license to practice when guilty of unprofessional or dishonorable conduct. I question the propriety, however, of Boards exercising this power except in most flagrant cases.

If John Smith is disposed to occupy the first page of a newspaper in calling the attention of the public to the fact that he confines his attention entirely to diseases of the genito-urinary organs, I believe this indiscretion alone should not cost him the right to practice medicine, upon the contrary, should he claim in the public press that he can cure what is recognized by the profession as an incurable disease, such as consumption or cancer, it is the duty of the Board to step in between the credulous public and the dishonorable practitioner and deprive the impostor of his professional rights. It is, likewise, the duty of the Board to refuse or revoke a license for persistent and chronic inebriety, criminal abortion and repeated gross immoralities.

As honorable and intelligent physicians, we recognize the great sin of advertising in any manner. In view, however, of the outspoken sentiment in favor of any restriction in this direction, I presume it is better to allow the fool his course, at least until he reaches that point in his career that his practices imperil the safety of the public.

I am pleased to submit some statistics of the work accomplished by several State Boards of Medical Examiners. My statistics are from States where the law requires a personal examination of the applicant's fitness to practice. These examinations include all the essential branches of the field of medicine. They afford a most convincing argument in behalf of efficient medical legislation.

I trust I may not be considered presumptuous if I assert that in the administration of their delicate and untried trusts, it has been the policy of these Boards to be somewhat lenient, and to license many whom they knew possessed very inadequate instruction. A part of their duties have been to educate both the profession and the public to the propriety of this form of legislation. Notwithstanding this policy we are informed that 24.8 per cent. of all applicants for a license to practice have been rejected as unsafe practitioners.

My statistics are based upon returns from the following named States, to-wit: Alabama, North Dakota, North Carolina, Virginia and Minnesota. Table number one indicates the number of different persons, examined, passed, rejected, percentages, etc. Total number examined 1950; total number classified,1746; total number unclassified, 204. The unclassified represents foreign and extinct colleges and undergraduates. Total percentage licensed .752 per cent. (Table No. 1 not published owing to space required.)

The following data are compiled from the records of the different Boards of Examiners. The comparison indicates the result of the examinations of graduates of the graded three course institutions and those that previous to 1890 conferred degrees after attendance upon two courses of instruction. The above

TABLE II.

The following table indicates the result of the examination of 183 students, graduates of colleges requiring three courses of instruction before receiving the degree of M.D.:

State.	Univ. Penn.		Univ. Mich.		Univ. Minn.		Harvard.		Chicago Med.		Col. Phys. and Surg. New York.	
	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.
Alabama	10	0	2	0	..	..	3	0	..	..	6	0
Minnesota	18	0	37	0	53	3	7	0	15	0	8	0
North Carolina	3	0	1	0	..	..	..	..	..	..	4	0
North Dakota	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	4	0	2	0	..	..	..	..	..	..	6	1
Totals	35	0	42	0	53	3	10	0	15	0	24	1

Total number of different persons examined 183
" " " " passed 179
" " " " rejected 4
Total percentage of persons passed, .972 per cent.

TABLE III.

The following table indicates the result of the examination of 435 students, graduates of colleges formerly issuing degrees upon attendance of two courses of lectures:

State.	Univ. N. Y.		Jefferson.		Rush.		Bellevue.		Phys. and Surg., Baltimore.		Univ. Louisville.	
	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.	Passed.	Rejected.
Alabama	13	0	15	3	3	1	12	0	12	1	14	4
Minnesota	2	1	5	2	12	9	4	3	..	..	..	..
North Carolina	34	..	39	2	..	..	17	3	69	25	3	4
North Dakota	..	1	1	0	..	..	..	..	..	..	..	..
Virginia	14	6	20	8	0	..	11	0	42	15	2	3
Totals	63	8	80	15	15	10	44	6	123	41	19	11

Total number of different persons examined 435
" " " " passed 343
" " " " rejected 92
Percentage passed, .788 per cent.
Difference in favor of Table II, .191 per cent.

colleges were selected, being those indicated by the report of the Illinois Board of Health as matriculating respectively the greatest number of students in the year 1890.

The above tables indicate that graduates of the three course graded colleges rarely fail before the various State Boards of Medical Examiners. Table No. 2 indicates 183 examinations with four failures; table No. 3, 435 examinations with 91 failures. The practice of medicine is fairly well regulated at the present time in about one-half of the States. The present indications are that the wave of reform will extend, and in the near future include all the States. The friends of medical legislation include the masses of the profession and the representatives of the better colleges of the country. Its enemies principally include the representatives of those colleges governed by commercial interests and charlatans.

Up to the present time the number of medical colleges has increased out of all proportion to the increase of population. Of 130 schools, less than a dozen are endowed. The number of practitioners is greatly in excess of the legitimate demands of the people. We are reliably informed that in a period of time ending with the decade of 1890, the colleges of the United States matriculated 115,355 students, and graduated 40,996. This is an average of 4,000 yearly; in my opinion more than twice as many as the requirements of the people demand.

As a final argument in behalf of adequate medical legislation, I beg to submit the following statistics, based upon the proportion of physicians to the number of inhabitants in a few of the European countries:

RATIO OF PHYSICIANS TO POPULATION.

Sweden	1 to 7,000	of population.
Italy	1 to 3,500	" "
Germany	1 to 3,000	" "
Austro-Hungary	1 to 2,400	" "
France	1 to 2,000	" "
United States	1 to 600	" "

The above figures explain themselves and comment seems unnecessary.

Basing my opinion upon observation of the workings of the Minnesota law in its last five years' experience, I am fully satisfied that efficient legislation will reduce the number of physicians to a number commensurate with the needs of the people, and the people themselves be better and more honestly served. Minnesota has a less number of physicians per capita than any State of the Union; St. Paul a less number than any of the larger cities of the United States. The result in this State is wholly due to efficient legislation, and the product of the act has been to enhance the welfare of both the profession and public.

Briefly, gentlemen, my conclusions upon the question of medical legislation can be summarized as follows, to wit: First, The regulation of medical practice and medical education is constitutional, and the demands therefore imperative. Secondly, That a distinct line of demarkation should exist between the so-called licensing power, and the regulation of medical education. Thirdly, That the licensing power should include in every State the following essentials:

a. That the evidence of the candidate's fitness to practice medicine should be established by his undergoing an examination upon all the important branches of medicine.

b. That there is absolutely no necessity for a series of questions that in the least conflict with the views of the various schools of practice.

c. That power should be granted to revoke or refuse license for unprofessional or dishonorable conduct.

d. That the exercise of this power upon the part of the different Boards should only be resorted to in palpably flagrant cases.

e. That the public interests will be best subserved by the so-called mixed Boards.

f. That the power vested is best executed by the State Sanitary Police, or rather, the different State Boards of Health.

g. The duties of the act belonging to that department of law known as the State Police Power, therefore the appointing power should be vested in the Governor.

h. Appointees should be men of recognized ability and standing in the various communities.

4. I am satisfied that the influences of efficient medical legislation will have a most salutary effect upon the character of the instruction afforded the students of medicine in this country, and that the faculties of the various colleges, in the future, will not be so notoriously lax in regard to the conferring of degrees.

5. It is likewise essential that medical education should be restricted or regulated in the various States, and that, in my opinion, there should be created a central authority consisting of a Bureau of Education, that this Bureau should have power to refuse or

revoke charters, and should exercise a restrictive influence as to the character of education conferred, and that the authority should apply particularly to special schools of education, such as law and medicine.

6. That said Board should establish regulations pertaining to the granting of charters to medical colleges. The charters should not be granted unless all necessary laboratories were thoroughly equipped, that facilities for clinical instruction were unquestioned, and that applicants for charters should satisfy the Board of their undoubted ability to support the institution financially, without being dependent upon the fees of its students for its sustenance.

In a recent report of the Commissioner of Education of the United States, he forcibly directs the attention of the public to the very inadequate equipment of the medical colleges of this country. We are informed in this report that there are two million, six hundred and seventy-two thousand dollars invested in grounds, buildings and apparatus for the medical schools of the United States. The amount of productive funds for these schools is only two hundred sixty-six thousand, one hundred and ninety dollars, and the annual income from investments, only twenty-two thousand. He states "when we examine the facilities and demands of this country with those of the British Isles and Continental Europe, we necessarily conclude that the foreign schools exact too much, or that our system is painfully crude and lax." The Commissioner of Education further remarks, "that considering the enormous amount of knowledge that has been accumulated respecting the proper treatment of disease, its prevention, and its nature, the impression becomes irresistible that we have been influenced by our national impatience and haste in this matter, as well as in many others, and that we have allowed the student to dictate the length of time of study instead of obliging him to spend enough time to receive it properly and retain it securely. Applied to the profession of medicine there is but one inference to draw from the above data, we can only conclude that the facilities for securing a thorough medical education in this country are indeed inadequate. The present high character of the masses of the profession in the United States is not so much due to the facilities of college training, as to the individual character of the profession. The vast majority of the profession of this country, now in practice, received their degrees of M.D. after an attendance upon but two courses of medical instruction, of not more than twenty weeks duration each; many look back upon their medical college career as unimportant epochs, and think of those days as a work of confusion. The instruction afforded under this system of medical education was hurried, superficial and most inadequate to our wants. The course consisting rather in calling the attention of the student to the art of medicine, than to the teaching him of the sound principles upon which is governed the great field of active practice. This system of instruction was a delusion. Our experience confirms us in the opinion, that if the student does not become grounded in the essential principles of medicine in his college days, he never will. Except in a few rare instances a physician does not acquire histology, anatomy, physiology and chemistry, after receiving his degree of M.D. The few that have become proficient in later professional life have been placed at a very great disadvantage.

We are pleased to observe at this time a disposition to foster and support a higher system of education among the masses. The present disposition in the various States of the Union is towards a complete divorcement of the public school system from church or other influences, and affording to the public a system of education fully equal in quality, and as extensive in scope as can be obtained in any civilized country. This disposition is particularly noticeable in several of our Western States. We see here millions of dollars spent annually in the support of university education, and the facilities for instruction in several of these institutions are quite unsurpassed. We already have our University of Michigan, with its 2,800 students; the University of Minnesota, with its 1,300 students, and closely following, that of Wisconsin, Iowa, Texas and Nebraska.

The growing tendency of the State to foster higher education carries with it much encouragement for the profession of medicine. It means a medical department in connection with many of these institutions that are independent, and directly supported by the State. I am pleased to see a disposition in many of our colleges to connect themselves with universities. A medical college connected with a university has few objections and many advantages. As we pass the fourth centennial epoch in our history, we can look forward with most sanguine expectations in all that pertains to medicine. We invite our critics to forget the past and only look to the present and future. Present appearances plainly indicate that we are on the eve of a new departure in medical education in this country. The older system of medical education is a thing of the past; let us forget it quickly and look to the future.

In conclusion, I again appeal to the profession of this country, and particularly to you, gentlemen, the most intelligent representatives of the profession of medicine in America, to renew your zeal and continue in your efforts until the battle for higher medical education in America is actually won, and the good name of the profession of medicine rescued from disgrace.

THE STATE SOCIETY OF ARKANSAS elected the following officers at its late meeting: President, J. T. Jelks, Hot Springs; First Vice-President, A. C. Jordan, Pine Bluff; Second Vice-President, J. C. Wallis, Arkadelphia; Third Vice-President, J. W. Case, Batesville; Fourth Vice-President, G. D. Huddleston, Lamar; Secretary, L. P. Gibson, Little Rock; Assistant Secretary, W. B. Lawrence, Batesville; Treasurer. A. L. Breysacher, Little Rock; Librarian, R. B. Christian, Little Rock.

TRI-STATE MEDICAL SOCIETY OF ALABAMA, GEORGIA AND TENNESSEE will hold its fourth annual session in Chattanooga, Tenn., October 25, 26 and 27, 1892. The membership is not strictly limited to the profession from the States named in the title of the Society, but men of eminence from other States may be elected. Under the vigorous management of its present corps of officers, it is needless to assure our readers that the coming session will be a great success. The mention of the names of Dr. W. E. B. Davis, of Rome, Ga., as President; Drs. D. H. Howell, J. C. Shepard, and J. P. Stewart, as Vice-Presidents; Dr. Frank Trester Smith, of Chattanooga, as Secretary; Dr. W. L. Gahagan, of Chattanooga, Tenn., as Recorder, etc., give sureties of active work and successful results. Papers for the session are already promised by the president, by Drs. I. N. Love, of St. Louis; J. W. Cowan, of Tullahoma, Tenn.; E. B. Ward, of Selma, Ala.; J. M. Head, of Zebulon, Ga.; John L. Howell, and J. N. Masters, of Knoxville, and C. S. Briggs and Richard Douglas, of Nashville.

LAST ONE HUNDRED ABDOMINAL SECTIONS FOR REMOVAL OF OVARIAN TUMOR AND DISEASED UTERINE APPENDAGES.

BY R. STANSBURY SUTTON, M.D., PITTSBURGH, PA.

Medical Attendant.	Patient.	Age.	Ovariotomy. Double or Single	Removal of Appendages. Double or Single	Weight of Tumor.	Descriptive Remarks.	Date.	Place of Operation.	Result.
Drs. Robertson and Floyd	Miss R.	27		Double		Chronic salpingitis and ovaritis. Adhesions. Tate knot	April 26, '87	Private hospital	Recov'd.
Dr. Williamson	Mrs. D.	36	Double		12 lbs.	Multilocular cyst of right ovary. Pedicle tied and burnt. Left ovary cystic	Nov. 5, '87.	" "	"
Dr. Phillips	Mrs. M	27	Single		30 "	Parovarian cyst. Forty square inches anterior abdominal adhesion	Nov. 9, '87.	" "	"
Dr. Floyd	Miss S.	31		Single		Left chronic ovaritis and salpingitis. Right ovary removed one year previous	Nov. 17, '87	" "	"
Dr. Boal	Mrs. B.	31	Double		20 lbs.	Multilocular dermoid cyst. Second ovary cystic. Pedicles tied and burnt	Mar. 21, '88	" "	"
Dr. Sykes	Miss W.	32	"		30 "	Non-adherent cyst. Second ovary cystic. Patient very feeble	May 10, '88.	" "	"
Dr. McDonnald	Mrs. H.	27	Single		25 "	Non-adherent cyst. Pedicle tied and burnt	Oct. 11, '88.	" "	"
Dr. Ross	Mrs. S.	47		Double		Prolapsed ovaries; pelvic pain; mental aberration. Last cured by operation	Oct. 30, '88.	" "	"
Dr. McDonnald	Mrs. L.	35		"		Unbearable dysmenorrhœa. Ovaries and tubes buried in adhesions. Abdomen very fat	Nov. 3, '88.	" "	"
Dr. Stewart	Mrs. H	20		Single		Left chronic ovaritis and salpingitis	Nov. 7, '88.	" "	"
Dr. Purington	Mrs. S.	58	Single		30 lbs.	Ruptured multilocular cyst. No adhesions. Drainage	"	" "	"
Dr. Williamson	Mrs. McC.	24		Double		Married two years; sterile; dysmenorrhœa; convulsions. Salpingitis and ovaritis	Nov. 13, '88.	" "	"
Dr Rough	Mrs. R.	33		"		Sterile; had had pelvic abscess. Operation had been recommended by me, five years previous, when single	Dec. 1, '88.	" "	"
Drs. Porter and Fish	Mrs. H.	26		"		In bed greater part of time for five years. Pelvic abscess one year before	Dec. 3, '88.	" "	"
Dr. Williamson	Miss P.	23	Single			Imperforate vagina; infantile, unicornuated uterus. Normal ovary and tube on right side. None on left	Dec. 11, '88.	" "	"
Dr. Bell	Mrs. B.	46	"		8 lbs.	Cysts on both sides; left pediculated. Right malignant	Feb. 18, '89.	" "	"
Dr. Sloan	Mrs. G.	50	"		25 "	Multilocular cyst. Pedicle tied and burnt	Feb. 19, '89.	" "	"
Dr. Hunter	Mrs. A.	24	"		5 "	Tumor. Extensive adhesions	April 7, '89.	" "	"
Dr. Stewart	Mrs. H	21		Single		Right ovaritis and salpingitis; 2nd operation	" 15, '89.	" "	"
Dr. Klingensmith	Mrs. L.	23		Double		Had had pelvic abscess, pelvic peritonitis, menorrhagia. Ovaries and tubes adherent.	" 27, '89.	" "	"
Dr. Williamson	Mrs. H.	25	Double		40 lbs.	Parovarian cyst. Second ovary cystic	May 7, '89.	" "	"
Dr. Clark	Miss S.	27		Double		Ovaritis and salpingitis. Pedicle tied and burnt. Drainage	" 9, '89.	" "	"
Dr. O'Brien	Mrs. B.	29		"		Gonorrhœal salpingitis	June 12, '89	" "	"
Dr. Sutton	Mrs. A.	30		"		Long, persistent pelvic pain. Pain cured, but cause undetermined	" 22, '89	" "	"
Dr. Robinson	Mrs. M.	29		"		Uterine hæmorrhages and great pelvic pain. Ovaries and tubes adherent. Not cured	July 8, '89.	" "	"
Dr. Simpson	Mrs. W	28		"		Sterile; ovaries cystic; chronic salpingitis	Sept. 10, '89	" "	"
Dr. McCard	Mrs. A.	41		"		Bleeding fibroid. Subsequent reduction in size of tumor	Oct. 6, '89.	" "	"
Dr. Ackerman	Mrs. L.	29		"		Pyosalpinx	" 19, '89.	" "	"
Dr. Patton	Mrs. S.	28	Single		15 lbs.	Multilocular ovarian cyst. Ligatured	Nov. 2, '89.	" "	"
Dr. Williamson	Miss B.	36		Double		Bleeding fibroid. Two hæmostatic forceps left on deep pelvic vessels for 24 hours	" 28, '89.	" "	"
Dr. Green	Mrs. M	42	Single			Suppurating, universally adherent dermoid; patient septic when operated; died of shock	Dec. 19, '89.	" "	Died.
Dr. Waples	Mrs. C.	56	"			Intraligamentous cyst	" 23, '89.	" "	Recov'd.
Dr. O'Brien	Mrs. S.	34	"		20 lbs.	Cyst	Feb. 3, '90.	" "	"
Dr. Williamson	Miss T.	22		Double		Patient insane; confined in straight-jacket; ovaritis and salpingitis; insanity cured	" 12, '90.	" "	"
Dr. Knox	Mrs. S.	37		"		Old pelvic inflammation; appendages adherent to omentum and intestines; drainage	" 25, '90.	" "	"
Dr. Storer	Miss H	21		"		Severe hæmorrhages; interstitial fibroid	" 27, '90.	" "	"
Dr. Dean	Miss C.	30	Double			Dermoid size of orange, encapsulated by adhesions to omentum, intestines, uterus, tubes and pelvic floor; drainage	Mar. 5, '90.	" "	Died.
Dr. Pershing	Mrs. B.	41		Double		Old invalid; ovaries and tubes completely embedded in adhesions; drainage; cured.	" 10, '90.	" "	Recov'd.
Dr. Blaby	Miss L.	15	Single		35 lbs.	Multilocular cyst; pedicle tied and burnt	" 22, '90.	" "	"
Dr. Benham	Mrs. B.	51	"		40 "	Fibro-cystic tumor of right ovary; extensive adhesions	" 23, '90.	" "	"
Dr. Johnston	Miss McD.	44		Double		Chronic salpingitis and ovaritis	April 9, '90.	" "	"
Dr. Walker	Mrs. O'T	27		"		Ovaritis, salpingitis and pelvic peritonitis	" 21, '90.	Home	"
Dr. Stewart	Mrs. H.	60	Single		50 lbs.	Suppurating multilocular cyst; frequently tapped; had phlegmasia dolens	May 3, '90.	Private hospital	"
Dr. Tressel	Mrs. H.	30		Double		Salpingitis and ovaritis	" 29, '90.	" "	"
Dr. Klingensmith	Mrs. K.	53	Single			Unilocular cyst; extensive adhesions; stitched incision; drainage; cured	June 2, '90.	" "	"
Dr. McCready	Mrs. G.	23		Double		Bleeding fibroid; ovaries and tubes diseased	" 7, '90.	" "	"
Dr. Sutton	Mrs. S.	43		"		Multiple fibroids	" 10, '90.	" "	"
Dr. Laidley	Mrs. R.	46		"		Uterine hæmorrhages; interstitial endometritis	" 12, '90.	" "	"
Dr. Bell	Mrs. M.	30		"		Chronic neurasthenic invalid; interstitial salpingitis; cured	" 18, '90.	" "	"
Dr. Bell	Miss W	22		"		Round ligaments shortened by Dr. Gill Wylie one year prior. N. G. Chronic salpingitis	" 19, '90.	" "	"
Dr. Sharpneck	Mrs. B.	46	Single		71 lbs.	Multilocular cyst; Brown's clamp and cautery; drainage	Sept. 4, '90.	" "	"
Dr. Pollock	Mrs. D.	58	"			Multilocular dermoid cyst	" 6, '90.	" "	"
Dr. Kirker	Mrs. T.	65	Double			Cancer of both ovaries and omentum; all removed	" 9, '90.	Home	"
Dr. Banks	Mrs. L.	48	Single		18 lbs.	Parovarian cyst; Brown's clamp and cautery	Oct. 22, '90.	Private hospital	"
Dr. Bell	Mrs. G.	27		Double		Chronic salpingitis and ovaritis	" 25, '90.	" "	"
Dr. McComb	Mrs. K.	22		"		" " " "	" "	" "	"
Dr. Clark	Mrs. A.	27		"		Persistent dysmenorrhœa, neuralgia, invalidism; cured	Nov. 7, '90.	" "	"
Dr. McCready	Mrs. R.	26		"		Chronic salpingitis and ovaritis	" 10, '90.	" "	"
Dr. Frew	Mrs. Y.	43		"		Sterile; persistent pelvic pain; chronic salpingitis; ovaries atrophied and adherent	" 24, '90.	" "	"
Dr. Simpson	Mrs. W.	21		"		Dysparunia, sterile, nausea, amenorrhœa for two years previous; infantile uterus	Dec. 10, '90.	" "	"

LAST ONE HUNDRED ABDOMINAL SECTIONS FOR REMOVAL OF OVARIAN TUMOR AND DISEASED UTERINE APPENDAGES—(CONTINUED.)

Medical Attendant.	Patient.	Age.	Ovariotomy. Double or Single	Removal of Appendages. Double or Single	Weight of Tumor.	Descriptive Remarks.	Date.	Place of Operation.	Result.
Dr. Banks	Miss McT.	25	Single			Soft myoma of right ovary; 65 pints acetic fluid in cavity; drainage; had been tapped 101 times	Dec. 13, '90.	Private hospital	Recov'd.
Dr. Gyer	Miss T.	37		Double		Bleeding fibroid	Jan. 3, '91.	" "	"
Dr. Kirker	Mrs. J.	50	Double			Ruptured, multilocular, intraligamentous cyst	" 11, '91.	Home	"
Dr. Clover	Mrs. K.	47	Single			Cancer of ovaries, liver, omentum and intestines; 4 gals. fluid in abdomen. Operated under protest	Feb. 18, '91.	Private hospital	Died.
Dr. Cort	Mrs. M.	32		Double		Chronic salpingitis and ovaritis	" 25, '91.	" "	Recov'd.
Dr. Clover	Miss L.	33		"		Chronic salpingitis and ovaritis; extensive adhesions	" "	" "	"
Dr. Sutton	Mrs. Z.	28		"		Chronic salpingitis and ovaritis	Mar. 4, '91.	" "	"
Dr. Bell	Mrs. S.	26	Single		8 lbs.	Pregnant 3½ months; multilocular cyst of left ovary; gestation undisturbed	April 2, '91.	" "	"
Dr. Clover	Mrs. L.	24		Double		Chronic ovaritis and salpingitis; right ovary cystic, left cirrhotic	" 25, '91.	" "	"
Dr. Sutton	Miss A.	30		"		Dysmenorrhœa; uterus infantile; appendages very small	" 29, '91.	" "	"
Dr. Davidson	Mrs. H.	40	Single		9 lbs.	Multilocular cyst of right ovary; adherent to uterus; intraligamentous		" "	"
Dr. King	Miss K.	42	"		35 "	Multilocular, intraligamentous cyst; phthisis pulmonalis; died on 9th day of exhaustion	May 16, '91.	" "	Died.
Dr. Engle	Miss A.	31		Double		Recurrent pelvic peritonitis. Got ovaries; failed to get tubes	" 18, '91.	" "	Recov'd.
Dr. McComb	Miss McM.	29		"		Uterus adherent to rectum; ovaries adherent to tubes and glued en masse to pelvic floor	June 6, '91.	" "	"
Dr. Jones	Mrs. D.	35		"		Invalidism; chronic ovaritis and salpingitis; cured	Sept. 3, '91.	" "	"
Dr. King	Mrs. McD.	56	Single		50 lbs.	Multilocular cyst; slight adhesions at many points	" 5, '91.	" "	"
Dr. Henry	Mrs. G.	32	"		20 "	Multilocular cyst; slight adhesions	" 12, '91.	" "	"
Dr. O'Brien	Mrs. S.	35	"		12 "	Suppurating, intraligamentous, multilocular cyst of left ovary	" 29, '91.	" "	"
Dr. Van Dyke	Mrs. B.	44	"		23 "	Multilocular cyst; adhesions; short, thick pedicle; tied in sections	Oct. 8, '91.	" "	"
Dr. J. Frank Ross	Miss R.	5		Double		Recurrent pelvic peritonitis	Nov. 5, '91.	" "	"
Dr. Potts	Mrs. J.	42	Single		35 lbs.	Intraligamentous, multilocular cyst; also, appendicitis and removal of vermiform appendix	Dec. 22, '91.	" "	"
Dr. Downer	Mrs. S.	62	"		50 "	Multilocular cyst; pedicle twisted three and one-half turns; cyst fluid bloody	Jan. 10, '92.	" "	"
Dr. Hobbs	Mrs. W.	21	"			Cyst; twisted pedicle; violent peritonitis; cavity flushed and drained	" 14, '92.	" "	"
Dr. Bell	Mrs. K.	31		Double		Sterile; chronic ovaritis and salpingitis; adhesions	" 28, '92.	" "	"
Dr. Armstrong	Mrs. A.	30		"		Left pyosalpinx; right ovaritis and salpingitis	Feb. 1, '92.	" "	"
Dr. Mattison	Mrs. L.	30	Single		25 lbs.	Multilocular cyst; pedicle twisted; free fluid in cavity; slight omental adhesion	" 4, '92.	" "	"
Dr. McElroy	Mrs. McC.	46	"		28 "	Multilocular cyst; pedicle twisted; cyst rotten	" 27, '92.	" "	"
Dr. Eastman	Mrs. M.	30	Double		5 "	Intraligamentous dermoid; 2nd ovary cystic	Mar. 7, '92.	" "	"
Dr. Clagget	Mrs. J.	62	"			Cancer of both ovaries; 35 pints acetic fluid. Operated under protest	" 10, '92.	" "	Died.
Dr. Ogden	Mrs. G.	65	"		16 lbs.	Multilocular cyst; died on 14th day of gangrene of lower 3 feet of ilium and entire colon; abdominal wound healed by first intention	" 26, '92.	Allegheny Gen. Hos.	"
Dr. —, Allegheny Gen. Hosp.	Miss O'H.	19		Double		Gonorrhœal salpingitis and ovaritis	" "	" " "	Recov'd.
Dr. —, A. G. H.	Mrs. D.	26		"		Chronic salpingitis and ovaritis; procedentia uteri; anterior fixation	" 31, '92.	" " "	"
Dr. —, "	Miss B.	19		"		Gonorrhœal pyosalpinx; sharp pelvic peritonitis; suppurating peritonitis later	" "	" " "	Died.
Dr. Taylor	Mrs. S.	32		"		Chronic ovaritis and salpingitis; very strong adhesions	April 13, '92		Recov'd.
Dr. Orr	Miss M.	32	Single		1 lb.	Abscess right ovary and mesovarium; pint of pus; discharged frequently per rectum	" 15, '92		"
Dr. Huselton, A. G. H.	Mrs. P.	29		Double		Chronic salpingitis and ovaritis, pelvic peritonitis and cellulitis	" 25, '92	Allegheny Gen. Hos.	"
Dr. —, A. G. H.	Miss M.	32	Double		6 lbs.	Multilocular cyst; no adhesions; second ovary cystic	May 4, '92.		"
Dr. Gladden	Mrs. P.	72	Single		40 "	Multilocular cyst of right ovary	" 5, '92.		"
Dr. Shenkle	Mrs. Y.	45	"		16 "	Multilocular cyst of right ovary; pedicle five inches broad; tied in sections	" 7, '92.	Allegheny Gen. Hos.	"
Dr. Smith	Mrs. C.	26		Double		Sterile; chronic ovaritis and salpingitis	" 9, '92.	" " "	"

SYNOPSIS.

In these one hundred cases, which I have the pleasure to report to you, there were:

Fifty-four abdominal sections for removal of diseased appendages with one death, which was caused by suppurating pelvic peritonitis.

Forty-six abdominal sections for removal of ovaries, the seat of tumor, with six deaths, which were cause as follows:

The first, Mrs. M., had been confined a short time previous; was thoroughly septic, having chills, sweats and irregular temperature, pulse ranging from 120 to 130, prior to operation. Died of shock 48 hours after operation.

Second, Mrs. C., the operation was extremely difficult. An intestine was injured, hæmorrhage was profuse, operation was prolonged and vomiting after anæsthesia was uncontrollable. Died from shock 48 hours after operation.

Third, Mrs. K., operated under protest made to her physician and husband together. The operation was completed in a few minutes with moderate loss of blood, and as I predicted, patient died on the table, ten or fifteen minutes after the operation had been completed. There was plenty of time to have her removed from the table, but I refused to have her moved. Her profound neurasthenia was the cause of my protest. Died of shock.

Fourth, Miss K., was operated with phthisis pulmonalis, a sequela of la grippe. Tumor was large.

She should have been tapped and not operated. Died from exhaustion, the result of colliquitive sweats and persistent cough.

Fifth, Mrs. J., a woman 62 years old with cancer of both ovaries, enormously distended with fluid and very much exhausted. I protested against operating. The protest was made to her husband and physician a second time before she was anæsthetized; my judgment was overruled and my prediction that she would die verified.

Sixth, and last case, Mrs. G., operated without difficulty or unusual incident. On sixth day had stercoraceous vomiting with great tympany. I button-holed the ileum in left inguinal region. Distention was relieved and vomiting ceased. Died on 14th day. Post-mortem showed no cause of death attributable to the ovariotomy. No fluid in abdominal cavity. Lower three feet of ileum and entire colon were gangrenous. Died of thrombosis of nutritive vessels. Thrombi were derived from varix as large as an egg situated in scarpal triangle and connected with femoral vein.

Five of these deaths in the forty-six ovariotomies could have been avoided by refusing the cases, which would have been the proper thing to have done. In the future I shall certainly act upon my own convictions, without reference to what becomes of the case afterwards; a position, however, which perhaps only an experienced operator has the right to assume, for all know how frequently the most unpromising cases will survive operation.

PREPARATORY TBEATMENT.

The preparatory treatment of these patients, has been about as follows:

The patient is put to bed 48 hours prior to operation, her bowels thoroughly emptied and during the second 24 hours, her diet is limited to nutritious soup, bread and tea. She has had at least two baths at which the cilia about the genitals have been thoroughly cleansed and the vagina washed out with hot water. One hour before operation, a towel wrung out of a hot 1:1,000 sublimate solution is laid over the abdomen and removed on the operating table.

TECHNIQUE.

At the operation besides the anæsthetizer, one assistant and two nurses are used. One nurse has charge of sponges, the other instruments, needles and ligature.

The first stage of the operation, viz: Opening the cavity of the abdomen, varies from five to fifteen seconds. The incision is made in the median line.

The second stage of the operation, adhesions being present or absent, if the case is one of cystic tumor varies from one minute to ten. The average being four and one half minutes. If the appendages are to be removed adherent or non adherent, the time for both sides varies from four to twelve minutes; the average being probably between eight and nine minutes.

The third stages of the operation, the "Toilette de Pentonine" depends largely on whether there are vessels to take up, fluids to wash out or drainage to be applied. The time varies from seven to twenty-eight minutes. The average being probably very close to thirteen minutes. This includes, of course, suturing the abdominal wound.

After the wound has been sutured it is covered with a layer of aristol; this with eight thicknesses of aseptic gauze; this with a thin layer of aseptic cotton, and all this secured by a scultetus bandage.

Neither in the sponges nor in the water covering the instruments and suture, is any chemical introduced. If it is necessary to flush the abdomen it is done with simple boiled tap water.

AFTER TREATMENT.

The after treatment is of the simplest character. During the first 38 hours the patient gets nothing except sips of hot water, and is encouraged to take as little of this as possible. If she suffers from thirst, occasionally four ounces of warm water are thrown into the rectum. Between the 38th and 48th hour she is allowed to take toast water and tea unless her stomach be irritable, in which event she is given a Seidlitz powder,or 3j Rochelle salts, or a two grain pellet of cloral; the latter if the tongue be furred. At the end of 48 hours, nutritous soups and bread crumbs initiate a more liberal diet a few days later. In very feeble patients, nutritive enemata of peptonized milk are given from the end of the first 24 hours. When it has been necessary to leave the drainage tube in the lower end of the wound, the tube is emptied, and the super dressing changed every two hours until the end of the sixth hour; then every four hours until the end of the first 24 hours and every eight hours from that until the time of its removal, should it be continued beyond 24 hours. If the wound has been aseptic and the vitality of the tissues sufficiently good, no suppuration occurs. If however, this fortunate condition does not exist, about 17 hours after operation the temperature will usually reach a fraction above 100° F., and for the first two or three days will fluctuate between 99⅘ and 101. Under such circumstances a twenty grain suppository of quinine is given every 24 hours. The wound is examined daily,any offending stitches removed, and usually the result in pus formation is insignificant. It occasionally occurs in a very fat abdomen or in that of a patient extremely debilitated,both conditions predisposing to low vitality,that suppuration will occur to a considerable degree. Early evacuation of the pus, thorough cleansing of the pus cavity or sinus with hydrogen peroxide and subsequent stimulation of its walls with iodized water, with or without the introduction of a small rubber drainage tube, has been followed uniformly by the speedy recovery of the patient.

The average time for laparotomy patients from date of operation is 16 days and the average time in the private hospital is about 23 days.

Increased experience in operating and through this an acquired ability to discriminate justly against hopeless cases as already proven in this table, will, I am confident, enable me to reduce my mortality in the next hundred similar cases to less than seven per cent. Had I maintained my convictions with reference to two of the cases in this table the mortality in the last hundred cases done at this writing would have been but five per cent., and experience has taught me that if a woman who is the subject of phthisis pulmonalis has an ovarian cyst, that it is wise to be contented with tapping. Had this lesson been learned earlier the mortality in this table would have been but 4 per cent. With these considerations I feel confident that the efforts of the future will be better.

SOCIETY PROCEEDINGS.

American Otological Society.

Twenty-fifth Annual Meeting, held at the Fort Griswold House, New London, Conn., July 19, 1892.

The Society was called to order by the President, Dr. Gorham Bacon, of New York. The first paper was by Oren D. Pomeroy, M.D., New York, entitled:

CASES OF MASTOID DISEASE EXHIBITING SOMEWHAT EXTENSIVE CARIOUS PROCESSES.

Case 1.—J. W., æt. 19 years, applied November 22, 1887. In December, 1885, he had a post-aural abscess, which was incised. A few months afterward, the mastoid was freely opened and carious bone removed. On entering the hospital the mastoid opening was nearly closed, and the middle ear was suppurating. There was a swelling below the auricle, red and painful, and preventing free movement of the jaw. Pressure on this part evacuated pus from the tympanum.

November 24, the swelling has extended to the face. Temperature 101.4°, pulse rapid and weak. Nourishment and stimulants used. The patient was etherized, and the granulations in the tympanum were removed by the curette. The opening in the mastoid was extended downwards and opened into a large cavity that seemed to include the mastoid and tympanum. A large quantity of pus was evacuated by syringing. Temperature in the evening 103.6°.

November 25, temperature 99°. Within two days an abscess in front of the velum on the left side was opened. This showed no apparent communication with the ear cavity. During the next three days the temperature was nearly normal, and after this became so. Antiseptic irrigation was continued. After two weeks, the discharge became much less and the carious cavity showed signs of filling up with healthy tissue. The abscess in the throat was probably due to the ear trouble.

Case 2.—M. G., æt. 34 years, admitted February 29, 1890. In December last had acute suppurative otitis in left ear, with mastoid periostitis. Wilde's incision was done. On entering the hospital there was an opening in the mastoid three-quarters of an inch deep, into which the little finger could be thrust, at the bottom of which pulsation was apparently felt. The meatus was filled with dried epithelium and pus. There was elevation of temperature from rheumatism in the left hip-joint. The mastoid cavity was cleaned out and packed with iodoform gauze. Large doses of iodide of potassium were given. Temperature a little elevated in the evening. March 4, easily detachable bits of carious bone were removed with curette and gouge. Temp. 103°, but this was reduced by phenacetine. By March 20, temp. became normal. Stimulants were freely used and the patient became much better, and was able to walk about the wards.

April 7, pieces of carious bone were removed by the bone curette and gouge. Other portions were washed out by the syringe. Considerable granulation material and a cheesy substance were also removed. The part was dressed with iodoform gauze after irrigation with bichloride solution. The patient was discharged April 21, much improved.

Case 3.—T. S., æt. 16 years, came into the hospital August 11, 1891, with an acute suppurative otitis media of both ears. Six days later a Wilde's incision was done on the left mastoid. The discharge continued from each ear when he left the hospital some weeks later.

March 23, 1892, he came under the author's care for the first time. Over the left mastoid was a small aperture leading into a large carious cavity which included the mastoid and tympanum. This opening was enlarged by a stout knife so that the finger could be introduced into the mastoid cavity. Dead bone and granulations were found. On syringing a soft flocculent material, resembling broken down brain substance, was removed in large quantities. Granulations were removed from the drum cavity by the curette. The opening in the mastoid was more than an inch in depth. Antiseptic irrigation was practiced, and cotton smeared with vaseline 5,000 parts and bichloride one part, was applied to the wound. After three weeks, granulations and small bits of bone were removed by the curette. On May 10 an abscess appeared above the meatus and communicating with it. This was opened and found not to communicate with dead bone. It was treated antiseptically and by a compress. June 20, 1892, the mastoid is closed and the discharge from the ear has nearly ceased. He hears words loudly spoken close to the ear.

The right ear in the meantime has filled with granulations which were removed with the curette. On April 8, it was found that pressure on the mastoid caused pus to exude from the meatus and a Wilde's incision was done expecting to find an opening in the mastoid, but none was found. The wound was kept open by a cotton tent. May 9, there was an opening into the mastoid and two or three considerable masses of dead bone were drawn out with artery forceps. This left an enormous cavity which seemed to include the tympanum. Polypi were also removed. There was much hæmorrhage. Antiseptic irrigation was practiced, and vaseline and bichloride on cotton was applied. Since this time granulations and bits of bone have been removed June 20, 1892, the external wound has closed with considerable sinking and the ear has almost ceased discharging. The temperature has some of the time been above normal. and seemed as though recovery would be impossible.

Case 4.—A. W., æt 2 years, has suppurative otitis of the left ear dating back five months. The author first saw her November 1890, when the tympanum was full of polypi. There was a large carious opening in the mastoid which was filled with granulation. Small bits of carious bone and cheesy looking detritus were removed. These were removed and the wound irrigated and dressed with bichloride gauze. Patient was much improved in a few days. After another month more granulations were removed and some dead bone. Four months later, the mastoid opening was closed with considerable sinking. The discharge from the ear diminished after each operation.

Case 5.—J. S., æt. four months had a swelling behind the left ear of four days' duration with a discharge from the ear for one month. A Wilde's incision was made and an opening into the antrum found. There was considerable discharge of pus. Antiseptic irrigation and bichloride gauze dressing. After a few days a probe was passed in one and one-half inches in the direction of the tympanum touching bone. This opening was enlarged by the drill and kept clear by syringing with an antiseptic solution. The patient was brought very irregularly and the treatment was not carried out intelligently and the child died two months later with brain symptoms.

Case 6.—A. P., Italian; æt. 42 years; has an otitis media suppurating since three months with a swelling over the mastoid. The latter was at once incised, and a handle of a scalpel could be thrust through an opening in the cells which seemed to include the tympanum in its area. Antiseptic irrigation was practiced for some weeks. March 22, the temperature was 100.2°. Granulations were removed from the mastoid. On the 23d, there was considerable œdematous swelling about the mastoid which subsided in a few days and the temperature became normal. On March 29, some pain in the side of the head was relieved by quinine. A subsequent headache was relieved by bromidia. More granulations and dead bone were removed. April 18, temperature 100.5° with headache. The next day was better. Being offended he made a serious attack on the nurse. He was then sent to the N. Y. Insane Asylum to be examined as to his mental condition. He was however, soon discharged from the asylum. The patient has recently been heard from and the ear symptoms are not urgent.

Case 7.—A. P., æt 42 years; has a suppurative otitis media on the left side of one week's duration, and a painful swelling over the mastoid since two weeks. Pus was evacuated by a Wilde's incision. A large opening was found in the mastoid extending inward one and one-quarter inches from the skin surface. It was streated by antiseptic irrigation using a hard rubber drainage tube. After four weeks of treatment the external wound was nearly closed but the temperature was 99.6, and a sequestrum of bone was found. There was also apparently some cellulitis of adjoining soft parts, the opening was enlarged and more dead bone removed. After this there was decided improvement and the patient disappeared from observation.

In reviewing these cases it will be seen that no effort was made to remove all the dead bone, but whatever was loose or readily detachable was taken away. Adequate antiseptic drainage was carefully looked after and the vital energies were kept up by stimulants, tonics, food and proper nursing.

(To be concluded.)

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SATURDAY, JULY 30, 1892.

THE HOT SEASON AND CONSEQUENT AILMENTS.

During the last few days an atmospheric wave of unusual high temperature has passed from West to East over the Northern States, Fahrenheit thermometers marking over 90° for nearly the entire day for more than a week. This is dangerous weather and carries with it a death mark to many houses. The daily press tells of the adults who directly succumb to the effects of the heat, but leaves unrecorded the names of scores and hundreds of invalids and infants whose lives go out as they wilt before the Sirocco. While the immediate mortality has been appalling, the enervating and debilitating influence of the heat will for weeks and months continue its depressing influence.

From this heat will be dated the beginning of innumerable cases of summer complaint, diarrhœa, dysentery, nervous prostration, and mental aberration. The mortality and suffering from these affections may be greatly lessened by timely advice from family physicians.

The knowledge should be made common among the people, that for heat stroke or prostration, the patient whether old or young, should be immediately removed, if in the sun, to a cool and shaded place, the clothing loosened and much of it taken off, and when possible, plunged in a cool bath, or showered with cold water from a sprinkling can; care being taken to remove the patient from the bath, or to stop the sprinkler before the temperature has reached the normal, lest collapse ensue.

Frequent and free baths in cool water cannot be too strongly urged, particularly upon the large population in city tenement houses. These people do not have bath room facilities and accommodations, but they do have ordinary washtubs that answer an admirable purpose as a plunge for the little ones, and a sponge off and ablution for those who are older.

This is trite and elementary information to our readers, but is gone over in order to direct attention to a prophylactic measure that should be urged upon the poor, and particularly upon those who swelter in sweat shops, and similar places.

* * * * *

The prevalence and continuance of summer complaint is in direct proportion to the height of atmospheric temperature, and for this the very best remedies are of the prophylactic order, and of these the knowledge should be made common among the people, and particularly among the poor. In addition to the bathing referred to, a suitable diet and resort to the parks, lake, river, or seaside are absolutely essential for the preservation of much of the child life of the great cities.

For nursing infants, the mother's milk is the best diet in most cases, but not infrequently this is an irritable or indigestible food for the child, and is often supplied in insufficient quantity. A wet nurse is an excellent substitute, but for one reason or another, in a vast majority of instances is not available. The diet that is most convenient and frequently resorted to, is cow's milk. For infant or invalid feeding this should be sterilized as quickly as possible. This may be done by pouring the fresh new milk into a perfectly clean bottle, lightly stoppered with a clean new cork, then place the bottle in a pan or other vessel of warm water, which should be heated to the boiling point and kept there for not less than twenty minutes. A few grains of table salt should be added to the milk. The bottle may now be closely stoppered and set in a cool place.

Milk sterilized in this manner is palatable and wholesome for several hours, or even for a whole day. This simple and inexpensive process can be carried out in any family.

Milk is like a sponge in its power of absorption, taking up the contaminating properties of the surrounding atmosphere with the greatest rapidity; for this reason mothers and housewives should know that its use should depend upon their most careful and immediate attention.

* * * * *

Don't always think that because a mother is an educated woman that she consequently knows enough to frequently give the baby a little drink of cool water. A little at a time and often should be the rule. Many mothers don't know this, but as a substitute place the puling infant at the breast to stop its crying.

All cases that are severe enough to have medication should be under the direction of a physician.

DR. SAMUEL S. ADAMS has accepted the Professorship of Clinical Pediatrics in the Medical Department of Columbian University, Washington, D. C., having resigned from the chair of Theory and Practice of Medicine in the National University of Washington City.

THE FUNCTIONS OF THE STOMACH AFTER GASTROSTOMY.

EWALD has observed the functions of a stomach which has been subjected to gastrostomy, and reports some of his findings in the *Deutsche Medizinal-Zeitung* for March 24. In this case the peptic activity of the stomach was entirely destroyed, and the nutrition began to take place in the intestines. The movements of the stomach were lessened, and a certain amount of stagnation of the gastric contents took place in consequence of adhesions. For this reason EWALD has suggested that the fistula should be made near the pylorus, so that the food, or some of it, can be introduced by a tube directly into the duodenum. So long as a patient's strength is maintained gastrostomy cannot be strongly recommended. The prognosis of obstruction due to pressure from without is much the same as that due to tumor unless the tumor is syphilitic. The stricture may be due to peptic ulcer in the lower part of the œsophagus; this lesion is due to corrosion by the gastric juice and occurs in anæmic subjects. The age is very important. Unlike carcinoma, attacks of pain are noted and obstruction later. The patient upon whom EWALD made his observations was a female, aged twenty, who had previously suffered from gastric symptoms and then had had an interval of health lasting a few months. About one year ago, pain began again, followed by difficulty of swallowing. The bougie could not be passed. There was wasting; no history of syphilis. A gastrostomy was done by OPPENHEIM, the opening into the stomach being made at the end of five days. The patient gained rapidly in weight, but the constriction did not relax sufficiently to permit of the passage of a bougie. The fact of dilatation of the stomach, with delayed passage of food, favored the diagnosis of cicatrized ulcer near the pylorus as well as in the œsophagus. Through a speculum the cardiac end of the organ appeared too red, and the pyloric too pale. The sound could be passed five inches upward and six inches downward, but it could not be made to pass into the gullet or duodenum. The pressure in the moderately filled organ was expressed by EWALD at from 30 to 35 millimetres, and with moderate external compression at from 80 to 100 millimetres. This pressure was increased by applying the faradic current to the abdominal wall, but not by applying the current to the inside of the stomach. This was due to adhesions. Salol excretion was delayed, salicylic acid appearing in the urine two and a half hours after food, owing to stomach dilatation. If the stomach were washed out the night before, a fluid containg free hydrochloric acid and with peptic properties could be obtained on the morning following. The patient survived the operation five months.

DANGERS FROM A MISUSE OF STOMACH-WASHING.

In a recent number of the London *Practitioner*, DR. SOLTAN FENWICK has described some of the objectionable features of lavage, when indiscriminately practiced. In his view of the case, this comparatively new measure has been used more frequently than is just and proper. Not only have chlorosis, atonic dyspepsia and the gastric crises of locomotor ataxia been thus treated, but also not a few cases where the vomiting was of purely reflex origin. Twenty-five cases of convulsions in chronic gastric disease, have been studied by the author. In six of these the attack was apparently due to the stomach-tube. Other irritative causes than mechanical ones may, as is well-known, result in both general convulsions and in tetany, when the gastro-intestinal track is in question, but in several cases observed by the author it was manifest that the stomach-tube was the prime factor of the disturbance. Tetany, from gastric irritation, has been described as a very fatal complication, upwards of sixty per cent. ending in death. Another kind of untoward result, namely the perforation of the wall of the stomach, at a point already thinned by a gastric ulcer, by the pressure of the stomach-tube, has been known to end in a fatal peritonitis. Hæmorrhages have not infrequently followed the use of the stomach-pump, in cases where carcinomatous or ulcerative disease was present.

Three cases of poisoning by boric acid have been found by DR. FENWICK, due to the employment of solutions of that acid as an antiseptic in cases of gastric disease. Two of these cases ended fatally. It is probable, in regard to these cases, that the irrigation of the stomach was carried out in an imperfect or careless manner, so that an unduly large quantity of the acid remained, after the tube was removed.

These "accidents" by no means impeach the use of lavage in the proper range of cases, but they teach the imperative need of watchfulness and judgment in the choice of cases that shall be treated by that method. It will become obvious to others, as it has to DR. FENWICK, that cases not benefited are apt to be made worse, since as LEUBE has pointed out, the tube removes more or less of those products of digestion whose manufacture by the stomach has caused that organ not a little labor. It is not probable that the washing out of the organ, in a case where the digestive secretion is below the normal, will add to or improve its physiological powers. And we cannot justly expect that this procedure can prevent the recurrence of conditions and symptoms which are an indirect result of an organic disease in another viscus outside the stomach. He tried lavage in one case of tabes, marked by severe gastric crises, using it daily for several weeks, but without any good influence over the digestion. In a few cases of anæmia

and dyspepsia, failure also resulted in his use of lavage; but these persons, or some of them, began to improve under some of the older and more ordinary lines of treatment. In conclusion he holds that lavage cannot be employed successfully unless employed indiscriminately; that its loose use is liable to prove a curse rather than a benefit, and that not only will some of the patients be made to suffer, but the method itself may be brought into disrepute among those for whom it might satisfactorily be used.

THERMIC FEVER.

A large proportion of cases of this affection are speedily fatal. Those who do not immediately succumb are apt to suffer from a lesion of the nerve centers, for which complete rest in a cool climate, and freedom from mental labor, irritation, exertion and anxiety should be enjoined. Simple tonics, nutrients, salt baths, and laxative waters with hygienic surroundings are indicated. Notwithstanding the patients being placed under the most favorable conditions indicated, very many fail to recover, lose their mental equilibrium, become dead to the world and end their lives as inmates of sanitariums and asylums.

THE AMERICAN SOCIETY OF MICROSCOPISTS.

This Association of scientists will meet at Rochester, N. Y., August 9, 10, 11 and 12.

The volume of proceedings of last year's meeting is exceedingly rich in the character of its contents, and is particularly valuable to physicians. We are pleased to note that a large proportion of the members are medical men.

For the consideration of the American Society of Microscopists we suggest that they hold their annual meetings during the week preceding or following that of the American Medical Association, and at the same place. A Section on Microscopy will no doubt be created in the latter organization, so that a unification of time and place of meeting will be of great advantage to the scientists who are engaged in this fascinating and profitable line of work.

INCOMPATIBLE WITH ANTIPYRINE.—The salicylate of sodium and antipyrine form a mixture from which an oily substance separates. The same is true of chloral hydrate. With betanaphthol, antipyrine becomes hygroscopic. These changes take place when dry trituration of the respective substances is undertaken.

THE quotation, "Who shall decide when doctors disagree and soundest casuists doubt like you and me," was written by *Alexander Pope, Moral Essays, Epistle 3, line 1.* The original did not apply to doctors of medicine, but to doctors of philosophy. Yours, J. B. H.

ERRATA.—In our last issue, in the book review of McClellan's Anatomy, the name of the first descriptive anatomist was misspelled, it should be Alcmeon.

DOMESTIC CORRESPONDENCE.

"The New York Medical Journal And The American Medical Association."

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

In the ASSOCIATION JOURNAL for July 23, 1892, is a letter from J. F. Jenkins, M.D., having the above caption, in which exception is taken to an editorial on "The American Medical Association" that appeared in the *New York Medical Journal* for July 16. The writer has misinterpreted the spirit of the editorial, apparently basing his misinterpretations on the ground that the editor of the *New York Medical Journal* is not a member of the American Medical Association. While this latter fact is true, it is also true that he takes a lively interest in the welfare of the Association and would gladly see it attain the commanding position that should be its province. But the writer overlooks the fact that in the journal referred to, as in all medical journals, the editor does not write all the editorials. And the member of the editorial staff who wrote the editorial is almost as old a member of the Association as is Dr. Jenkins, and is one who has done whatever was in his power, both as a member and officer of the American Medical Association, to further its interests.

A fair acquaintance with members of the profession in various sections of the United States suggests a classification of the members of the regular profession into, first, those who are indifferent to the Association; second, those who—like the Laodiceans—are neither warm nor cold; and third, those who are favorable towards it. This classification has been arranged in the order of numerical proportion, and it may be verified by referring to the printed list of members of the Association in THE JOURNAL for December 26, 1891, and some register of the physicians of the United States. That class of professional men to whom Dr. Jenkins refers as desiring the destruction of the Association, has not been met with anywhere; it seems as if Dr. Jenkins had echoed an assertion that has been made before, but made on the ground of heated and intemperate expression that ignores the right, not only of a just difference of opinion, but of the privilege of comparing facts regarding various scientific organizations.

An error has unwittingly crept in in Dr. Jenkins' second paragraph. The report of the committee on page 798 of Vol. xviii, of the Association Journal, is not on the Section of Dermatology alone, but on all the Sections, and to all the just criticism of that committee applies. And in order to remedy the deplorable condition of affairs a radical change has been made in the By-Laws governing the Sections.

If Dr. Jenkins will look over the list of members who have attended the last few annual meetings, then look at a list of the members of the Association, and then refer to a list of the members for 1884, say, he will appreciate the justice of the criticism. Let him think over the representative names in American medicine; the men who speak as having authority; the men who have attained their prominence by work in the hospitals and in practice, and not by professional log-rolling! Has the American Medical Association had the majority, or even one-half, or even a smaller proportion of these men in attendance? When thinking of the prominent men who do come, it almost seems as if the Association were under a special obligation to them for their efforts and the lending of their prestige to the Association.

The question of patriotism might arise in a comparison of American and foreign institutions in general; but in science all lands, one's country, and all countries, home, and it savors of evasion to introduce patriotism into a question of

facts. Comparison was made with the British Medical Association because its organization is more like our own, and because its journal was easily accessible to institute the comparison suggested if the reader so desired. It is not necessary to attend the English meetings to ascertain the verity of the statement; simply judge by the papers read before each organization. The report of the committee referred to in the first portion of this communication would substantiate the writer's position by itself. But if further evidence is desired, the writer's own experience, during two years that he held office in the Association, in the almost fruitless effort to enlist the coöperation of the best known men in the special work he was engaged in would serve as a basis for all that he said.

The editorial was written, as its tenor purports, to assure the Committee on the Revision of the Code of Ethics that if they would report a recommendation to abolish the entire Code as one of the fundamental features of the Association, their work would be warmly appreciated. It is a firm belief of the writer's that it has not made one man a better man or physician; for, in the language of the Orient, "You can water, fertilize and cultivate a field of thistles for a lifetime and the fruit remains the same, and you can leave a date palm to itself and it will always produce dates;" or in the homely proverb of the Anglo-Saxon, "You cannot make a silk purse out of a sow's ear." The physician who is a gentleman will be one whether the Code exists or no, and the reverse is equally true. Personally, most of the references I have ever seen made to the Code of Ethics have been for the purpose of satisfaction for some fancied wrong, and not from a desire to uphold the dignity and purity of the medical profession.

The existence of the Code savors of Pharisaism, and wrapping its mantle of holiness about us, we are tempted to be more impressed with our own virtue than with the scientific demands of the work upon which we are engaged. We have the example of many organizations before us; and a simple by-law to the effect that any member may be expelled for conduct unbecoming a physician and a gentleman, would eliminate what has been a fertile source of bickering, and bring to the Association many members who cannot be said to be the less gentlemanly, skilful or fraternal because they do not accept the Code of Ethics of the American Medical Association as the rule and guide for their conduct in professional life.

A strong desire to see everything removed that can be alleged to hamper the onward progress of the American Medical Association, was the single stimulus inciting the author of the editorial.

New York, July 25, 1892.

NECROLOGY.

MR. WILLIAM COLLES, Regius Professor of Surgery at the University of Dublin, died in June, from disease of the heart and debility of age. He was one of the senior surgeons of his country, having entered upon his apprenticeship with his father as long ago as 1826. His father was the distinguished Mr. Abraham Colles, whose name has an imperishable alliance with the wrist fracture that bears his name, and who was the author of some very popular lectures on clinical surgery, early in the present century. Mr. William Colles was the Queen's surgeon in Ireland, and the holder of various college and hospital appointments covering over a half-century.

MISCELLANY.

TREASURER'S REPORT.

Presented at the Annual Meeting at Detroit, June, 1892.

DR. RICHARD J. DUNGLISON, Treasurer, in account with the American Medical Association.

Dr. 1891.		
May 5. To cash balance as per Treasurer's report at Washington meeting	$9,427.21	
May 8. To dues from delegates and members at Washington meeting	3,505.00	
1892.		
June 4. To dues from members to date	10,012.50	
To independent receipts at office of publication, April 1, 1891, to May 15, 1892	12,580.77	
Total		$35,525.48
Cr. 1891.		
May 9. By cash paid J. Harrison White, expenses attending Washington meeting	54.75	
May 9. By Dr. D. E. Nelson, Trustee, expenses of attendance at Washington meeting	64.50	
May 9. By Dr. I. N. Love, Trustee, ditto	71.75	
May 9. By Dr. R. J. Dunglison, Treasurer, expenses of attendance at Washington meeting, telegrams, postage, expressage, etc.	53.04	
May 9. By Dr. W. B. Atkinson, Permanent Secretary, and Dr. R. J. Dunglison, Treasurer (by resolution of Board of Trustees), preparation of triennial list of members	75.00	
May 13. Dr. D. C. Patterson, Chairman Committee of Arrangements, Washington meeting, printing, rental, etc., $983.50, less donation of committee, $300	683.50	
May 14. By Dr. J. V. Shoemaker, Trustee, expenses of attendance at Washington meeting	40.00	
May 16. By Dr. I. N. Love, Trustee, expenses of attendance at Trustees' meeting, Chicago, May 13-14	54.00	
May 16. By Dr. W. W. Potter, Trustee, ditto	50.50	
May 16. By Dr. P. O. Hooper, Trustee, expenses of attending Washington and Chicago meetings	127.85	
May 16. By Dr. D. E. Nelson, Trustee, expenses of attendance at Chicago meeting	61.80	
May 16. Dr. J. B. Hamilton, Trustee, ditto	57.50	
May 23. By stamped envelopes	87.20	
May 29. By Dr. A. Garcelon, Trustee, expenses of attending Washington and Chicago meetings	143.00	
June 1. By Dunlap & Clarke, printing, 1889-90	3.75	
June 19. By Dr. W. W. Dawson, Trustee, expenses of attending Washington and Chicago meetings	67.83	
July 1. By Wm. F. Fell & Co., printing	15.25	
July 1. By Wm. F. Fell & Co., printing for Permanent Secretary	16.75	
July 1. By annual dues refunded	20.00	
July 1. By Wm. M. Christy's Sons, stationery	8.50	
July 11. By Ward & Barnitz, printing	15.60	
July 28. By Ward & Barnitz, printing	6.00	
August 1. By P. C. Merry, moving books at Washington for Librarian	6.00	
Oct. 20. By Dr. F. Woodbury, Chairman of Section of Materia Medica, etc., printing and stationery	9.50	
Oct. 24. By Dr. D. E. Nelson, Trustee, expenses of attending Trustees' meeting at St. Louis	48.00	
Oct. 24. By Dr. P. O. Hooper, Trustee, ditto	38.00	
Oct. 24. By Dr. W. W. Potter, Trustee, ditto	55.50	
Oct. 29. By Ward & Barnitz, printing	3.10	
Nov. 14. By Dr. E. S. McKee, expenses of reporting Section of Obstetrics	44.00	
Nov. 21. By Dr. John H. Rauch, Trustee, expenses of attending St. Louis meeting	27.50	
1892.		
Jan. 19. By Ward & Barnitz, printing	22.25	
Jan. 29. By Wm. F. Fell & Co., printing for Permanent Secretary	8.50	
Jan. 30. By postage, printing bills, circulars, drafts, etc.; collecting, type-writing, stamped envelopes, P. O. box rent, etc., to date	141.85	
Feb. 11. By Wm. F. Fell & Co., printing	11.00	
March 19. By Ward & Barnitz, printing	28.50	
April 2. By Ward & Barnitz, printing	13.50	
April 2. By Dr. C. G. Comegys, Chairman Committee on Medical Secretary of Public Health, expenses of printing, etc.	83.00	
April 14. By P. O. box rent	3.00	
April 28. By City Trust, Safe Deposit and Security Co., premium for bond of Treasurer, as per resolution of Board of Trustees	50.00	
May 13. By Dr. W. B. Atkinson, Permanent Secretary, expenses, telegrams, expressage, etc., to date	135.48	
May 18. By Geo. S. Davis, subscription to "Index Medicus," 1890-1891	20.00	
June 1. By Farmers' & Mechanics' Bank, Philadelphia, exchange on checks deposited to June 1, 1892	28.10	
June 1. By Drexel & Co., collection expenses on drafts	176.50	
June 1. By amount paid office of publication for expenses of JOURNAL to date	18,171.91	
June 1. Amount expended from its independent receipts by office of publication of JOURNAL, April 1, 1891, to May 15, 1892	12,576.65	
June 1. By balance	2,045.57	
Total		$35,525.48

DETROIT, June 7, 1892.

This certifies that we have examined the accounts and vouchers of R. J. Dunglison, Treasurer of the American Medical Association, and find the same absolutely correct.

ALONZO GARCELON,
I. N. LOVE,
Auditing Committee.